

Резюме: Бовин Николай Владимирович

Адрес

Федеральное государственное бюджетное учреждение науки Институт биоорганической химии им. академиков М.М. Шемякина и Ю.А. Овчинникова Российской академии наук, Москва, Россия

Контакты

<https://www.ibch.ru/users/15>

Образование

1970–2001	Россия, Москва	Институт биоорганической химии им. академиков М.М. Шемякина и Ю.А. Овчинникова РАН (ИБХ)	Присвоено учёное звание профессора
1970–1993	Россия, Москва	Институт биоорганической химии им. академиков М.М. Шемякина и Ю.А. Овчинникова РАН (ИБХ)	Присуждена учёная степень доктора химических наук за диссертацию «Неогликоконъюгаты: синтез и применение для гемо- и онкодиагностики»
1970–1982	Россия, Москва	Институт биоорганической химии имени М.М. Шемякина АН СССР (ИБХ)	Присуждена учёная степень кандидата химических наук за диссертацию «Синтез группоспецифических олигосахаридов крови H, A и Lea, и их иммобилизация на полимерной матрице»
1971–1976	Россия, Москва	Московский государственный университет имени М.В. Ломоносова (МГУ), химический факультет	Диплом химика

Работа в ИБХ

2018–наст.вр.	Заведующий отделом
2021–наст.вр.	Главный научный сотрудник

Членство в советах и комиссиях ИБХ

Диссертационный совет
Ученый совет

Награды

2010	Медаль Ордена «За заслуги перед Отечеством» II степени
------	--

Членство в сообществах

- Член Учёного и Диссертационного советов ИБХ им. М.М. Шемякина и Ю.А. Овчинникова РАН;
- Член Учёного совета ИОХ им. Н.Д. Зелинского РАН;
- Член редколлегии журналов Glycoconjugate Journal и Carbohydrate Letters;
- Национальный представитель в IGO (International Glycocojugate Organization).

Степени и звания

Профессор

Доктор наук (Химические науки)

Гранты и проекты

2020–2022 [Молекулярный инструментарий для изучения гликан-связывающих белков растений](#)

2020–2022 [Выявление дополнительных механизмов узнавания и адгезии вируса SARS-CoV-2 на эпителиальных клетках человека и разработка нового метода противовирусной терапии](#)

2018–2022 [Исследование анти-сиалозидных антител человека методами химической биологии](#)

Публикации

1. Obukhova P, Tyrtyshev T, Tsygankova S, Paramonov A, Gordeeva E, Shilova N, Lipatnikov A, Sokolova M, Henry S, Salimov E, **Bovin N**, Ryzhov I (2024). Chemical Resolution of an Epitope Recognized by Blood Group Antibodies Capable of Binding Both A and B Red Blood Cells. *ChemBiochem*, e202400430, [10.1002/cbic.202400430](https://doi.org/10.1002/cbic.202400430)
2. Slivka EV, Shilova NV, Obratsova EA, Kapustkina DS, Khaidukov SV, Nokel AY, Ryzhov IM, Henry SM, **Bovin NV**, Rapoport EM (2024). Surface Glycans of Microvesicles Derived from Endothelial Cells, as Probed Using Plant Lectins. *Int J Mol Sci* 25 (11), [10.3390/ijms25115725](https://doi.org/10.3390/ijms25115725)
3. Tuzikov A, Shilova N, Ovchinnikova T, Nokel A, Patova O, Knirel Y, Chernova T, Gorshkova T, **Bovin N** (2024). Labeling of Polysaccharides with Biotin and Fluorescent Dyes. *Polysaccharides* 5 (1), 1–15, [10.3390/polysaccharides5010001](https://doi.org/10.3390/polysaccharides5010001)
4. Tuzikov AB, Ovchinnikova TV, Nizovtsev AV, **Bovin NV**, Gorshkov TA, Chernova TE, Shilova NV (2024). Fluorescent glycopolymers for probing plant glycan-binding proteins. *MENDELEEV COMMUN* 34 (1), 13–14, [10.1016/j.mencom.2024.01.004](https://doi.org/10.1016/j.mencom.2024.01.004)
5. Vaskan I, Dimitreva V, Petoukhov M, Shtykova E, **Bovin N**, Tuzikov A, Tretyak M, Oleinikov V, Zalygin A (2024). Effect of ligand and shell densities on the surface structure of core-shell nanoparticles self-assembled from function-spacer-lipid constructs. *Biomater Sci* 12 (3), 798–806, [10.1039/d3bm01704d](https://doi.org/10.1039/d3bm01704d)
6. Nikulin MP, Shilova NV, Lipatnikov AD, Stilidi IS, Semyanikhina AV, **Bovin NV**, Tupitsyn NN (2023). Innate IgM antibodies to mannose in patients with gastric cancer. *Cancer Biol Med* 21 (3), 193–197, [10.20892/j.issn.2095-3941.2023.0156](https://doi.org/10.20892/j.issn.2095-3941.2023.0156)
7. Hughes JR, McMorrow KJ, **Bovin N**, Miller DJ (2023). An oviduct glycan increases sperm lifespan by diminishing the production of ubiquinone and reactive oxygen species. *Biol Reprod* 109 (3), 356–366, [10.1093/biolre/ioad074](https://doi.org/10.1093/biolre/ioad074)
8. Melikhova TD, **Bovin NV**, Antipov AD, Tereshin MN, Ziganshin RH, Tuzikov AB (2023). Sortase-promoted synthesis of homooligomers from a monomeric protein. *MENDELEEV COMMUN* 33 (5), 624–626, [10.1016/j.mencom.2023.09.011](https://doi.org/10.1016/j.mencom.2023.09.011)
9. Olivera-Ardid S, Bello-Gil D, Perez-Cruz M, Costa C, Camoez M, Dominguez MA, Ferrero-Alves Y, Vaquero JM, Khasbiullina N, Shilova NV, **Bovin NV**, Mañez R (2023). Removal of natural anti- α Gal antibodies elicits protective immunity against Gram-negative bacterial infections. *Front Immunol* 14, 1232924, [10.3389/fimmu.2023.1232924](https://doi.org/10.3389/fimmu.2023.1232924)
10. Pramanik S, Mondal S, Chinarev A, **Bovin NV**, Saha J (2023). Hydroxamate-directed access to β -Kdo glycosides. *Chem Commun (Camb)* 59 (66), 10028–10031, [10.1039/d3cc02609d](https://doi.org/10.1039/d3cc02609d)
11. Petrakova DO, Savchenko MS, Popova IS, Tuzikov AB, Paramonov AS, Chizhov AO, **Bovin NV**, Ryzhov IM (2023). Synthesis of Glycolipid Analogs Containing A (Type 2) Tetrasaccharide. *Russ. J. Bioorganic Chem.* 49 (4), 785–796, [10.1134/S1068162023040143](https://doi.org/10.1134/S1068162023040143)
12. Rapoport EM, Ryzhov IM, Slivka EV, Korchagina EY, Popova IS, Khaidukov SV, André S, Kaltner H, Gabius

- HJ, Henry S, **Bovin NV** (2023). Galectin-9 as a Potential Modulator of Lymphocyte Adhesion to Endothelium via Binding to Blood Group H Glycan. *Biomolecules* 13 (8), , [10.3390/biom13081166](https://doi.org/10.3390/biom13081166)
13. Ziganshina MM, Shilova NV, Khalturina EO, Dolgushina NV, V Borisevich S, Yarotskaya EL, **Bovin NV**, Sukhikh GT (2023). Antibody-Dependent Enhancement with a Focus on SARS-CoV-2 and Anti-Glycan Antibodies. *Viruses* 15 (7), 1584, [10.3390/v15071584](https://doi.org/10.3390/v15071584)
 14. Contreras M, Vaz-Rodrigues R, Mazuecos L, Villar M, Artigas-Jerónimo S, González-García A, Shilova NV, **Bovin NV**, Díaz-Sánchez S, Ferreras-Colino E, Pacheco I, Chmelař J, Kopáček P, Cabezas-Cruz A, Gortázar C, de la Fuente J (2023). Allergic reactions to tick saliva components in zebrafish model. *Parasit Vectors* 16 (1), 242, [10.1186/s13071-023-05874-2](https://doi.org/10.1186/s13071-023-05874-2)
 15. Pazynina GV, Tsygankova SV, Obukhova PS, Shilova NV, Paramonov AS, Chizhov AO, Knirel YA, **Bovin NV** (2023). Synthesis of disaccharides for the study of human blood antibodies capable of recognizing the inner Glc β 1-3GalNAc disaccharide fragment of bacterial polysaccharides. *MENDELEEV COMMUN* 33 (4), 476–478, [10.1016/j.mencom.2023.06.011](https://doi.org/10.1016/j.mencom.2023.06.011)
 16. Onishchenko NR, Moskovtsev AA, Kobanenko MK, Tretiakova DS, Alekseeva AS, Kolesov DV, Mikryukova AA, Boldyrev IA, Kapkaeva MR, Shcheglovitova ON, **Bovin NV**, Kubatiev AA, Tikhonova OV, Vodovozova EL (2023). Protein Corona Attenuates the Targeting of Antitumor Sialyl Lewis X-Decorated Liposomes to Vascular Endothelial Cells under Flow Conditions. *Pharmaceutics* 15 (6), 1754, [10.3390/pharmaceutics15061754](https://doi.org/10.3390/pharmaceutics15061754)
 17. Nikulin MP, Shilova NV, Lipatnikov AD, Semyanikhina AV, Stilidi IS, **Bovin NV**, Tupitsyn NN (2023). Mannose antibody levels in gastric cancer patients (literature review and clinical and experimental study). *РБЖ* 22 (3), 19–27, [10.17650/1726-9784-2023-22-3-19-27](https://doi.org/10.17650/1726-9784-2023-22-3-19-27)
 18. Vaskan IS, Prikhodko AT, Petoukhov MV, Shtykova EV, **Bovin NV**, Tuzikov AB, Oleinikov VA, Zalygin AV (2023). Assessment of core-shell nanoparticles surface structure heterogeneity by SAXS contrast variation and ab initio modeling. *Colloids Surf B Biointerfaces* 224, 113183, [10.1016/j.colsurfb.2023.113183](https://doi.org/10.1016/j.colsurfb.2023.113183)
 19. Pazynina GV, Tsygankova SV, Sablina MA, Shilova NV, Paramonov AS, Chizhov AO, **Bovin NV** (2023). Synthesis of Sug1-4GalNAc α disaccharides and their interaction with human blood antibodies. *MENDELEEV COMMUN* 33 (1), 107–108, [10.1016/j.mencom.2023.01.033](https://doi.org/10.1016/j.mencom.2023.01.033)
 20. Bello-Gil D, Olivera-Ardid S, Tuzikov AB, Costa C, **Bovin NV**, Mañez R (2023). Antibodies against hyaluronan oligosaccharides in xenotransplantation. *Xenotransplantation* 30 (3), e12799, [10.1111/xen.12799](https://doi.org/10.1111/xen.12799)
 21. Hickerson BT, Adams SE, **Bovin NV**, Donnelly RP, Ilyushina NA (2022). Generation and characterization of interferon-beta-resistant H1N1 influenza A virus. *Acta Virol* 66 (3), 263–274, [10.4149/av_2022_311](https://doi.org/10.4149/av_2022_311)
 22. Slivka EV, Tuzikov AB, Khaidukov SV, Komarova VA, Henry SM, **Bovin NV**, Rapoport EM (2022). Influence of the Lipid Moiety Structure on the Insertion/Release of Glycolipids in/from the Cell: A Study with Synthetic Analogs. *Russ. J. Bioorganic Chem.* 48 (5), 932–936, [10.1134/S1068162022050235](https://doi.org/10.1134/S1068162022050235)
 23. Sharif M, Hickl V, Juarez G, Di X, Kerns K, Sutovsky P, **Bovin N**, Miller DJ (2022). Hyperactivation is sufficient to release porcine sperm from immobilized oviduct glycans. *Sci Rep* 12 (1), 6446, [10.1038/s41598-022-10390-x](https://doi.org/10.1038/s41598-022-10390-x)
 24. Notova S, Siukstaite L, Rosato F, Vena F, Audfray A, **Bovin N**, Landemarre L, Römer W, Imberty A (2022). Extending Janus lectins architecture: Characterization and application to protocells. *Comput Struct Biotechnol J* 20, 6108–6119, [10.1016/j.csbj.2022.11.005](https://doi.org/10.1016/j.csbj.2022.11.005)
 25. Notova S, Bonnardel F, Rosato F, Siukstaite L, Schwaiger J, Lim JH, **Bovin N**, Varrot A, Ogawa Y, Römer W, Lisacek F, Imberty A (2022). The choanoflagellate pore-forming lectin SaroL-1 punches holes in cancer cells by targeting the tumor-related glycosphingolipid Gb3. *Commun Biol* 5 (1), 954, [10.1038/s42003-022-03869-w](https://doi.org/10.1038/s42003-022-03869-w)
 26. Nikiforova AV, Golovchenko VV, Mikshina PV, Patova OA, Gorshkova TA, **Bovin NV**, Shilova NV (2022). Plant Polysaccharide Array for Studying Carbohydrate-Binding Proteins. *Biochemistry (Mosc)* 87 (9), 890–902, [10.1134/S0006297922090036](https://doi.org/10.1134/S0006297922090036)
 27. Shilova N, **Bovin N**, Maltseva D, Polyakova S, Sablina M, Niwa H, Zakharova G, Raygorodskaya M, Bufeeva L, Belyi Y, Hushpulia D, Tonevitsky A (2022). Specificity of viscumin revised. As probed with a printed glycan array. *Biochimie* 202, 94–102, [10.1016/j.biochi.2022.08.009](https://doi.org/10.1016/j.biochi.2022.08.009)
 28. Tsygankova SV, Pazynina GV, Paramonov AS, Chizhov AO, **Bovin NV** (2022). Synthesis of Disaccharide Xyl β 1-2Man β , the Core Fragment of Plant N-Glycoproteins. *Russ. J. Bioorganic Chem.* 48 (3), 513–518, [10.1134/S1068162022030207](https://doi.org/10.1134/S1068162022030207)

29. Olivera-Ardid S, Bello-Gil D, Tuzikov A, Araujo RN, Ferrero-Alves Y, García Figueroa BE, Labrador-Horrillo M, García-Pérez AL, **Bovin N**, Mañez R (2022). Poly-L-Lysine-Based α Gal-Glycoconjugates for Treating Anti- α Gal IgE-Mediated Diseases. *Front Immunol* 13, 873019, [10.3389/fimmu.2022.873019](https://doi.org/10.3389/fimmu.2022.873019)
30. Ziganshina MM, Shilova NV, Khasbiullina NR, Terentyeva AV, Dolgopolova EL, Nokel AY, Yarotskaya EL, Shmakov RG, **Bovin NV**, Sukhikh GT (2022). Repertoire of glycan-binding placenta-associated antibodies in healthy pregnancy and in pre-eclampsia. *Scand J Immunol* 95 (6), e13157, [10.1111/sji.13157](https://doi.org/10.1111/sji.13157)
31. Obukhova PS, Ziganshina MM, Shilova NV, Chinarev AA, Pazynina GV, Nokel AY, Terenteva AV, Khasbiullina NR, Sukhikh GT, Ragimov AA, Salimov EL, Butvilovskaya VI, Polyakova SM, Saha J, **Bovin NV** (2022). Antibodies Against Unusual Forms of Sialylated Glycans. *Acta Naturae* 14 (2), 85–92, [10.32607/actanaturae.11631](https://doi.org/10.32607/actanaturae.11631)
32. Nokel AY, **Bovin NV**, Shilova NV (2022). Modification of the Surface of Plastics. *Nanobiotech Rep* 17 (1), 10–23, [10.1134/S2635167622010128](https://doi.org/10.1134/S2635167622010128)
33. Sharif M, Kerns K, Sutovsky P, **Bovin N**, Miller DJ (2021). Progesterone induces porcine sperm release from oviduct glycans in a proteasome-dependent manner. *Reproduction* 161 (4), 449–457, [10.1530/REP-20-0474](https://doi.org/10.1530/REP-20-0474)
34. Srivastava K, West KA, De Giorgi V, Holbrook MR, **Bovin NV**, Henry SM, Flegel WA (2021). COVID-19 Antibody Detection and Assay Performance Using Red Cell Agglutination. *Microbiol Spectr* 9 (3), e0083021, [10.1128/Spectrum.00830-21](https://doi.org/10.1128/Spectrum.00830-21)
35. Ruiz FM, Medrano FJ, Ludwig AK, Kaltner H, Shilova NV, **Bovin NLV**, Gabius HJ, Romero A (2021). Structural characterization of rat galectin-5, an N-tailed monomeric proto-type-like galectin. *Biomolecules* 11 (12), , [10.3390/biom11121854](https://doi.org/10.3390/biom11121854)
36. (конференция) Maslennikov AM, Zalygin AV, Shtykova EV, **Bovin NV**, Oleinikov VA (2021). Small-angle X-ray (SAXS) and Raman spectroscopy studies of biot-CMG(2)-DOPE quasicrystalline phases. *J Phys Conf Ser* 2058 (1), , [10.1088/1742-6596/2058/1/012018](https://doi.org/10.1088/1742-6596/2058/1/012018)
37. (конференция) Tarasova AR, Vaskan IS, Zalygin AV, Troitskaya PS, **Bovin NV**, Oleinikov VA (2021). Loading efficiency of doxorubicin into the micelle-like structures formed by function-spacer-lipid constructs self-assembly depends on constructs' functional part. *J Phys Conf Ser* 2058 (1), , [10.1088/1742-6596/2058/1/012003](https://doi.org/10.1088/1742-6596/2058/1/012003)
38. West J, Röder J, Matrosovich T, Beicht J, Baumann J, Mounogou Kouassi N, Doedt J, **Bovin N**, Zamperin G, Gastaldelli M, Salviato A, Bonfante F, Kosakovsky Pond S, Herfst S, Fouchier R, Wilhelm J, Klenk HD, Matrosovich M (2021). Characterization of changes in the hemagglutinin that accompanied the emergence of H3N2/1968 pandemic influenza viruses. *PLoS Pathog* 17 (9), e1009566, [10.1371/journal.ppat.1009566](https://doi.org/10.1371/journal.ppat.1009566)
39. (конференция) Цыганкова СВ, Пазынина ГВ, **Бовин НВ** (2021). СИНТЕЗ ДИСАХАРИДА Ху β 1-2Man β – КОРОВОГО ФРАГМЕНТА РАСТИТЕЛЬНЫХ N-ГЛИКОПРОТЕИНОВ. Сборник тезисов V Всероссийской конференции «Фундаментальная гликобиология» 21-24 сентября 2021 г. Гатчина , .
40. Mikolajczyk K, Bereznicka A, Szymczak-Kulus K, Haczkiwicz-Lesniak K, Szulc B, Olczak M, Rossowska J, Majorczyk E, Kapczynska K, **Bovin N**, Lisowska M, Kaczmarek R, Miazek A, Czerwinski M (2021). Missing the sweet spot: One of the two N-glycans on human Gb3/CD77 synthase is expendable. *Glycobiology* 31 (9), 1145–1162, [10.1093/glycob/cwab041](https://doi.org/10.1093/glycob/cwab041)
41. Rapoport EM, Khasbiullina NR, Komarova VA, Ryzhov IM, Gorbach MM, Tuzikov AB, Khaidukov SV, Popova IS, Korchagina EY, Henry SM, **Bovin NV** (2021). Localization of synthetic glycolipids in the cell and the dynamics of their insertion/loss. *BIOCHIM BIOPHYS ACTA* 1863 (9), 183645, [10.1016/j.bbamem.2021.183645](https://doi.org/10.1016/j.bbamem.2021.183645)
42. Chinarev AA, Sablina MA, Kunetskiy RA, Shilova NV, Polyakova SV, Paramonov AS, Saha J, **Bovin NV** (2021). Synthesis of spacer armed Kdn(2 \rightarrow 6') and (2 \rightarrow 3')-lactosamines for immunochemical research. *MENDELEEV COMMUN* 31 (4), 490–492, [10.1016/j.mencom.2021.07.017](https://doi.org/10.1016/j.mencom.2021.07.017)
43. Tuzikov AB, Ryabukhina EV, Paramonov AS, Chizhov AO, **Bovin NV**, Vodovozova EL (2021). A convenient route to conjugates of 1,2-diglycerides with functionalized oligoethylene glycol spacer arms. *MENDELEEV COMMUN* 31 (4), 538–541, [10.1016/j.mencom.2021.07.034](https://doi.org/10.1016/j.mencom.2021.07.034)
44. Ryzhov IM, Tuzikov AB, Nizovtsev AV, Baidakova LK, Galanina OE, Shilova NV, Ziganshina MM, Dolgushina NV, Bayramova GR, Sukhikh GT, Williams EC, Nagappan R, Henry SM, **Bovin NV** (2021). SARS-CoV-2 Peptide Bioconjugates Designed for Antibody Diagnostics. *Bioconjug Chem* 32 (8), 1606–1616, [10.1021/acs.bioconjchem.1c00186](https://doi.org/10.1021/acs.bioconjchem.1c00186)

45. (книга) **Bovin NV**, Obukhova PS, Galanina OE, Antipova NV, Dobrochaeva KL, Khasbiullina NR, Shilova NV (2021). Is it time to switch over to glyco molecular patterns? *Nova Science Publishers*, 377–395.
46. Tuzikov AB, Rapoport EM, Khaidukov SV, Nokel EA, Knirel YA, **Bovin NV** (2021). Synthesis of bodipy-labeled bacterial polysaccharides and their interaction with human dendritic cells. *Glycoconj J* 38 (3), 369–374, [10.1007/s10719-021-09993-9](https://doi.org/10.1007/s10719-021-09993-9)
47. Nagappan R, Flegel WA, Srivastava K, Williams EC, Ryzhov I, Tuzikov A, Galanina O, Shilova N, Sukhikh G, Perry H, **Bovin NV**, Henry SM (2021). COVID-19 antibody screening with SARS-CoV-2 red cell kodeocytes using routine serologic diagnostic platforms. *Transfusion* 61 (4), 1171–1180, [10.1111/trf.16327](https://doi.org/10.1111/trf.16327)
48. Breiman A, Ruvoën-Clouet N, Deleers M, Beauvais T, Jouand N, Rocher J, **Bovin N**, Labarrière N, El Kenz H, Le Pendu J (2021). Low Levels of Natural Anti- α -N-Acetylgalactosamine (Tn) Antibodies Are Associated With COVID-19. *Front Microbiol* 12, 641460, [10.3389/fmicb.2021.641460](https://doi.org/10.3389/fmicb.2021.641460)
49. Ryzhikov AB, Onkhonova GS, Imatdinov IR, Gavrilova EV, Maksyutov RA, Gordeeva EA, Pazynina GV, Ryzhov IM, Shilova NV, **Bovin NV** (2021). Recombinant SARS-CoV-2 S Protein Binds to Glycans of the Lactosamine Family in vitro. *Biochemistry (Mosc)* 86 (3), 243–247, [10.1134/S0006297921030019](https://doi.org/10.1134/S0006297921030019)
50. Tuzikov A, Chinarev A, Shilova N, Gordeeva E, Galanina O, Ovchinnikova T, Schaefer M, **Bovin N** (2021). 40 years of glyco-polyacrylamide in glycobiology. *Glycoconj J* 38 (1), 89–100, [10.1007/s10719-020-09965-5](https://doi.org/10.1007/s10719-020-09965-5)
51. Dobrochaeva K, Khasbiullina N, Shilova N, Knirel Y, Obukhova P, Nokel A, Kunetskiy R, Tsygankova S, Bello-Gil D, Costa C, Mañez R, **Bovin N** (2021). Specificity profile of α Gal antibodies in α GalT KO mice as probed with comprehensive printed glycan array: Comparison with human anti-Galili antibodies. *Xenotransplantation* 28 (3), e12672, [10.1111/xen.12672](https://doi.org/10.1111/xen.12672)
52. Lvov DK, Burtseva EI, Kolobukhina LV, Fedyakina IT, **Bovin NV**, Ignatjeva AV, Krasnoslobodtsev KG, Feodoritova EL, Trushakova SV, Breslav NV, Merkulova LN, Mukasheva EA, Khlopova IN, Voronina OL, Aksyonova EI, Kunda MS, Ryzhova NN, Vartanjan RV, Kistenyova LB, Kirillov IM, Proshina ES, Rosatkevich AG, Kruzhkova IS, Zaplatnikov AL, Bazarova MV, Smetanina SV, Kharlamov MV, Karpov NL, Shikhin AV (2021). [Peculiarities of the influenza and ARVI viruses circulation during epidemic season 2019-2020 in some regions of Russia]. *Vopr Virusol* 65 (6), 335–349, [10.36233/0507-4088-2020-65-6-4](https://doi.org/10.36233/0507-4088-2020-65-6-4)
53. Nizovtsev AV, **Bovin NV** (2021). A Facile Synthesis of 2-Aminopropane-1,2,3-tricarboxylic Acid and Its Symmetrical Dimethyl Ester. *Synthesis (Stuttg)* 53 (23), 4428–4432, [10.1055/s-0040-1720389](https://doi.org/10.1055/s-0040-1720389)
54. Shilova NV, **Bovin NV**, Nokel AY, Ziganshina MM, Khasbiullina NR, Vuskovic M, Huflejt ME (2021). Glycoarrays for diagnosis and therapy of the disorders of the female reproductive system. *Russ J Immunol* 24 (3), 419–424, [10.46235/1028-7221-1039-GFD](https://doi.org/10.46235/1028-7221-1039-GFD)
55. Poole J, Hartley-Tassell LE, Day CJ, Stanisic DI, Groves PL, Chakravarty S, Lee Sim BK, Hoffman SL, Tiralongo J, **Bovin N**, Doolan DL, Jennings MP (2021). Identification of the Glycan Binding Profile of Human and Rodent Plasmodium Sporozoites. *ACS Infect Dis* 7 (8), 2383–2389, [10.1021/acscinfecdis.1c00084](https://doi.org/10.1021/acscinfecdis.1c00084)
56. Perry HE, Ryzhov I, Galanina OE, **Bovin NV**, Henry SM (2020). Incidence in plasma of low level antibodies against three xenotransplantation and immunotherapeutic glycan antigens. *AIMS Allergy and Immunology* 4 (4), 75–87, [10.3934/Allergy.2020007](https://doi.org/10.3934/Allergy.2020007)
57. Shilova NV, Ryzhov IM, Ziganshina MM, Rakitko AS, Huflejt ME, **Bovin NV** (2020). Negative Correlation between Natural Human Antibodies Directed to Glycotopes Gal β 1-3GlcNAc and Gal β 1-4GlcNAc. *Russ. J. Bioorganic Chem.* 46 (6), 746–752, [10.1134/S1068162020060291](https://doi.org/10.1134/S1068162020060291)
58. Murphy PV, Romero A, Xiao Q, Ludwig AK, Jogula S, Shilova NV, Singh T, Gabba A, Javed B, Zhang D, Medrano FJ, Kaltner H, Kopitz J, **Bovin NV**, Wu AM, Klein ML, Percec V, Gabius HJ (2020). Probing sulfatide-tissue lectin recognition with functionalized glycodendrimersomes. *iScience* 24 (1), 101919, [10.1016/j.isci.2020.101919](https://doi.org/10.1016/j.isci.2020.101919)
59. Kunetskiy RA, Pazynina GV, Ivanov IA, **Bovin NV** (2020). Synthesis of blood group A and B (type 2) tetrasaccharides. A strategy with fucosylation at the last stage. *Carbohydr Res* 498, 108192, [10.1016/j.carres.2020.108192](https://doi.org/10.1016/j.carres.2020.108192)
60. Dobrochaeva K, Khasbiullina N, Shilova N, Antipova N, Obukhova P, Galanina O, Gorbach M, Popova I, Khaidukov S, Grishchenko N, Tupitsyn N, Pendu JL, **Bovin N** (2020). Human Natural Antibodies Recognizing Glycan Gal β 1-3GlcNAc (LeC). *Int J Mol Sci* 21 (18), 1–15, [10.3390/ijms21186511](https://doi.org/10.3390/ijms21186511)
61. Shuvalova ML, Kopylov AT, Mazurov DV, Pichugin AV, **Bovin NV**, Filatov AV (2020). CD44-Associated Tn Antigen as a New Biomarker of Tumor Cells with Aberrant Glycosylation. *Biochemistry (Mosc)* 85 (9), 1064–

1081, [10.1134/S0006297920090060](https://doi.org/10.1134/S0006297920090060)

62. Ilyushina NA, Lee N, Lugovtsev VY, Kan A, **Bovin NV**, Donnelly RP (2020). Adaptation of influenza B virus by serial passage in human airway epithelial cells. *Virology* 549, 68–76, [10.1016/j.virol.2020.08.004](https://doi.org/10.1016/j.virol.2020.08.004)
63. Machado SA, Sharif M, Kadirvel G, **Bovin N**, Miller DJ (2020). Adhesion to oviduct glycans regulates porcine sperm Ca²⁺ influx and viability. *PLoS One* 15 (8 August 2020), e0237666, [10.1371/journal.pone.0237666](https://doi.org/10.1371/journal.pone.0237666)
64. García Caballero G, Beckwith D, Shilova NV, Gabba A, Kutzner TJ, Ludwig AK, Manning JC, Kaltner H, Sinowatz F, Cudic M, **Bovin NV**, Murphy PV, Gabius HJ (2020). Correction to: Influence of protein (human galectin-3) design on aspects of lectin activity. *Histochem Cell Biol* 154 (2), 155, [10.1007/s00418-020-01886-6](https://doi.org/10.1007/s00418-020-01886-6)
65. Zalygin A, Solovyeva D, Vaskan I, Henry S, Schaefer M, Volynsky P, Tuzikov A, Korchagina E, Ryzhov I, Nizovtsev A, Mochalov K, Efremov R, Shtykova E, Oleinikov V, **Bovin N** (2020). Structure of Supramers Formed by the Amphiphile Biotin-CMG-DOPE. *ChemistryOpen* 9 (6), 640, [10.1002/open.202000139](https://doi.org/10.1002/open.202000139)
66. Sýkorová P, Novotná J, Demo G, Pompidor G, Dubská E, Komárek J, Fujdiarová E, Houser J, Hároníková L, Varrot A, Shilova N, Imberty A, **Bovin N**, Pokorná M, Wimmerová M (2020). Characterization of novel lectins from Burkholderia pseudomallei and Chromobacterium violaceum with seven-bladed β-propeller fold. *Int J Biol Macromol* 152, 1113–1124, [10.1016/j.ijbiomac.2019.10.200](https://doi.org/10.1016/j.ijbiomac.2019.10.200)
67. Adams SE, Lugovtsev VY, Kan A, **Bovin NV**, Donnelly RP, Ilyushina NA (2020). Laninamivir-Interferon-λ1 Combination Treatment Promotes Resistance by Influenza A Virus More Rapidly Than Laninamivir Alone. *Antimicrob Agents Chemother* 64 (7), , [10.1128/AAC.00301-20](https://doi.org/10.1128/AAC.00301-20)
68. Ziganshina MM, Yarotskaya EL, **Bovin NV**, Pavlovich SV, Sukhikh GT (2020). Can Endothelial Glycocalyx Be a Major Morphological Substrate in Pre-Eclampsia? *Int J Mol Sci* 21 (9), , [10.3390/ijms21093048](https://doi.org/10.3390/ijms21093048)
69. García Caballero G, Beckwith D, Shilova NV, Gabba A, Kutzner TJ, Ludwig AK, Manning JC, Kaltner H, Sinowatz F, Cudic M, **Bovin NV**, Murphy PV, Gabius HJ (2020). Influence of protein (human galectin-3) design on aspects of lectin activity. *Histochem Cell Biol* 154 (2), 135–153, [10.1007/s00418-020-01859-9](https://doi.org/10.1007/s00418-020-01859-9)
70. Dobrochaeva K, Khasbiullina N, Shilova N, Antipova N, Obukhova P, Ovchinnikova T, Galanina O, Blixt O, Kunz H, Filatov A, Knirel Y, LePendu J, Khaidukov S, **Bovin N** (2020). Specificity of human natural antibodies referred to as anti-Tn. *Mol Immunol* 120, 74–82, [10.1016/j.molimm.2020.02.005](https://doi.org/10.1016/j.molimm.2020.02.005)
71. Kerns K, Sharif M, Zigo M, Xu W, Hamilton LE, Sutovsky M, Ellersieck M, Drobnis EZ, **Bovin N**, Oko R, Miller D, Sutovsky P (2020). Sperm Cohort-Specific Zinc Signature Acquisition and Capacitation-Induced Zinc Flux Regulate Sperm-Oviduct and Sperm-Zona Pellucida Interactions. *Int J Mol Sci* 21 (6), , [10.3390/ijms21062121](https://doi.org/10.3390/ijms21062121)
72. Boligan KF, Oechtering J, Keller CW, Peschke B, Rieben R, **Bovin N**, Kappos L, Cummings RD, Kuhle J, von Gunten S, Lünemann JD (2020). Xenogeneic Neu5Gc and self-glycan Neu5Ac epitopes are potential immune targets in MS. *Neurol Neuroimmunol Neuroinflamm* 7 (2), , [10.1212/NXI.0000000000000676](https://doi.org/10.1212/NXI.0000000000000676)
73. Ziganshina MM, Kulikova GV, Fayzullina NM, Yarotskaya EL, Shchegolev AI, Le Pendu J, Breiman A, Shilova NV, Khasbiullina NR, **Bovin NV**, Kan NE, Tyutyunnik VL, Khodzhaeva ZS, Sukhikh GT (2020). Expression of fucosylated glycans in endothelial glycocalyxes of placental villi at early and late fetal growth restriction. *Placenta* 90, 98–102, [10.1016/j.placenta.2019.12.005](https://doi.org/10.1016/j.placenta.2019.12.005)
74. Rapoport EM, Moiseeva EV, Aronov DA, Khaidukov SV, Pazynina GV, Tsygankova SV, Ryzhov IM, Belyanchikov IM, Tyrtsh TV, McCullough KC, **Bovin NV** (2020). Glycan-binding profile of DC-like cells. *Glycoconj J* 37 (1), 129–138, [10.1007/s10719-019-09897-9](https://doi.org/10.1007/s10719-019-09897-9)
75. Zalygin A, Solovyeva D, Vaskan I, Henry S, Schaefer M, Volynsky P, Tuzikov A, Korchagina E, Ryzhov I, Nizovtsev A, Mochalov K, Efremov R, Shtykova E, Oleinikov V, **Bovin N** (2020). Structure of Supramers Formed by the Amphiphile Biotin-CMG-DOPE. *ChemistryOpen* 9 (6), 641–648, [10.1002/open.201900276](https://doi.org/10.1002/open.201900276)
76. Obukhova P, Tsygankova S, Chinarev A, Shilova N, Nokel A, Kosma P, **Bovin N** (2020). Are there specific antibodies against Neu5Gc epitopes in the blood of healthy individuals? *Glycobiology* 30 (6), 395–406, [10.1093/glycob/cwz107](https://doi.org/10.1093/glycob/cwz107)
77. Machado SA, Sharif M, Wang H, **Bovin N**, Miller DJ (2019). Release of Porcine Sperm from Oviduct Cells is Stimulated by Progesterone and Requires CatSper. *Sci Rep* 9 (1), 19546, [10.1038/s41598-019-55834-z](https://doi.org/10.1038/s41598-019-55834-z)
78. Ryzhov IM, **Bovin NV** (2019). Synthesis of glycans functioning as antigens of the ABO blood group system. *MENDELEEV COMMUN* 29 (6), 597–612, [10.1016/j.mencom.2019.11.001](https://doi.org/10.1016/j.mencom.2019.11.001)
79. Ryzhov IM, Savchenko MS, Pazynina GV, Tsygankova SV, Popova IS, Tyrtsh TV, **Bovin NV** (2019).

- Synthesis of N-acetylglucosamine based branched hexasaccharide. *MENDELEEV COMMUN* 29 (6), 680–682, [10.1016/j.mencom.2019.11.026](https://doi.org/10.1016/j.mencom.2019.11.026)
80. Gambaryan AS, Balish A, Klimov AI, Tuzikov AB, Chinarev AA, Pazynina GV, **Bovin NV** (2019). Changes in the Receptor-Binding Properties of H3N2 Viruses during Long-Term Circulation in Humans. *Biochemistry (Mosc)* 84 (10), 1177–1185, [10.1134/S0006297919100067](https://doi.org/10.1134/S0006297919100067)
 81. Popova IS, Korchagina EY, Sablina MA, Paramonov AS, Hult AK, Henry SM, **Bovin NV** (2019). Synthesis of blood group Forssman pentasaccharide GalNAc α 1-3GalNAc β 1-3Gal α 1-4Gal β 1-4Glc β -R. *MENDELEEV COMMUN* 29 (5), 578–580, [10.1016/j.mencom.2019.09.034](https://doi.org/10.1016/j.mencom.2019.09.034)
 82. Dutta S, Aoki K, Doungkamchan K, Tiemeyer M, **Bovin N**, Miller DJ (2019). Sulfated Lewis A trisaccharide on oviduct membrane glycoproteins binds bovine sperm and lengthens sperm lifespan. *J Biol Chem* 294 (36), 13445–13463, [10.1074/jbc.RA119.007695](https://doi.org/10.1074/jbc.RA119.007695)
 83. Ignateva NV, Ziganshina MM, Shilova NV, Khasbiullina NR, **Bovin NV**, Tyutyunnik VL, Sukhikh GT (2019). Isolation of IgG Associated with Human Placenta. *Bull Exp Biol Med* 167 (1), 120–122, [10.1007/s10517-019-04474-4](https://doi.org/10.1007/s10517-019-04474-4)
 84. Khasbiullina NR, Shilova NV, Navakouski MJ, Nokel AY, Blixt O, Kononov LO, Knirel YA, **Bovin NV** (2019). The Repertoire of Human Antiglycan Antibodies and Its Dynamics in the First Year of Life. *Biochemistry (Mosc)* 84 (6), 608–616, [10.1134/S0006297919060038](https://doi.org/10.1134/S0006297919060038)
 85. Day CJ, Hartley-Tassell LE, Seib KL, Tiralongo J, **Bovin N**, Savino S, Masignani V, Jennings MP (2019). Lectin activity of *Pseudomonas aeruginosa* vaccine candidates PSE17-1, PSE41-5 and PSE54. *Biochem Biophys Res Commun* 513 (1), 287–290, [10.1016/j.bbrc.2019.03.092](https://doi.org/10.1016/j.bbrc.2019.03.092)
 86. Kutzner TJ, Gabba A, FitzGerald FG, Shilova NV, García Caballero G, Ludwig AK, Manning JC, Knospe C, Kaltner H, Sinowatz F, Murphy PV, Cudic M, **Bovin NV**, Gabius HJ (2019). How altering the modular architecture affects aspects of lectin activity: case study on human galectin-1. *Glycobiology* 29 (8), 593–607, [10.1093/glycob/cwz034](https://doi.org/10.1093/glycob/cwz034)
 87. Pazynina GV, Tsygankova SV, Ryzhov IM, Shilova NV, Polyakova SM, Paramonov AS, Formanovsky AA, **Bovin NV** (2019). Synthesis of GalNGc α 1-3GalNAc α disaccharide and its interaction with human blood antibodies. *MENDELEEV COMMUN* 29 (3), 254–255, [10.1016/j.mencom.2019.05.004](https://doi.org/10.1016/j.mencom.2019.05.004)
 88. Perry H, **Bovin N**, Henry S (2019). A standardized kodeocyte method to quantify ABO antibodies in undiluted plasma of patients before ABO-incompatible kidney transplantation. *Transfusion* 59 (6), 2131–2140, [10.1111/trf.15247](https://doi.org/10.1111/trf.15247)
 89. Shilova NV, Khasbiullina NR, Nokel AY, Ziganshina MM, **Bovin NV** (2019). GLYCOARRAYS FOR STUDYING OF GLYCAN-PROTEIN INTERACTION. *Russ J Immunol* 22 (2), 987–989, [10.31857/S102872210006496-0](https://doi.org/10.31857/S102872210006496-0)
 90. Bello-Gil D, Audebert C, Olivera-Ardid S, Pérez-Cruz M, Even G, Khasbiullina N, Gantois N, Shilova N, Merlin S, Costa C, **Bovin N**, Mañez R (2019). The Formation of Glycan-Specific Natural Antibodies Repertoire in GalT-KO Mice Is Determined by Gut Microbiota. *Front Immunol* 10 (MAR), 342, [10.3389/fimmu.2019.00342](https://doi.org/10.3389/fimmu.2019.00342)
 91. Olivera-Ardid S, Khasbiullina N, Nokel A, Formanovsky A, Popova I, Tyrtyshev T, Kunetskiy R, Shilova N, **Bovin N**, Bello-Gil D, Mañez R (2019). Printed Glycan Array: A Sensitive Technique for the Analysis of the Repertoire of Circulating Anti-carbohydrate Antibodies in Small Animals. *J Vis Exp* 2019 (144), , [10.3791/57662](https://doi.org/10.3791/57662)
 92. Dobrochaeva KL, Khasbiullina NR, Shilova NV, Obukhova PS, Knirel YA, Nokel AY, **Bovin NV** (2019). Human antibodies eluted from ligand-free Sepharose capable of binding bacterial polysaccharides and sulfated glycans. *Mol Immunol* 106, 63–68, [10.1016/j.molimm.2018.12.011](https://doi.org/10.1016/j.molimm.2018.12.011)
 93. Jandus P, Boligan KF, Smith DF, de Graauw E, Grimbacher B, Jandus C, Abdelhafez MM, Despont A, **Bovin N**, Simon D, Rieben R, Simon HU, Cummings RD, von Gunten S (2019). The architecture of the IgG anti-carbohydrate repertoire in primary antibody deficiencies. *Blood* 134 (22), 1941–1950, [10.1182/blood.2019001705](https://doi.org/10.1182/blood.2019001705)
 94. Lvov DK, Burtseva EI, Mukasheva EA, Kolobukhina LV, Bogdanova VS, **Bovin NV**, Feodoritova EL, Trushakova SV, Breslav NV, Kirillov IM, Merkulova LN, Fedyakina IT, Krasnoslobodtsev KG, Voronina OL, Aksenova EI, Kunda MS, Ryzhova NN, Alkhovsky SV, Vartanyan RV, Kisteneva LB, Rosatkevich AG, Kruzhkova IS, Bazarova MV, Smetanina SV (2019). Peculiarities of the influenza viruses circulation and their properties during 2018-2019 epidemic season in Russia and countries of the Northern Hemisphere. *Problemy*

- Osobo Opasnykh Infektsii* (3), 66–74, [10.21055/0370-1069-2019-3-66-74](https://doi.org/10.21055/0370-1069-2019-3-66-74)
95. Lvov DK, Bogdanova VS, Kirillov IM, Shchelkanov MY, Burtseva EI, **Bovin NV**, Fedyakina IT, Prilipov AG, Alhovskiy SV, Samokhvalov EI, Proshina ES, Kirillova ES, Syroeshkin AV (2019). [Evolution of pandemic influenza virus A(H1N1)pdm09 in 2009–2016: dynamics of receptor specificity of the first hemagglutinin subunit (HA1)]. *Vopr Virusol* 64 (2), 63–72, [10.18821/0507-4088-2019-64-2-63-72](https://doi.org/10.18821/0507-4088-2019-64-2-63-72)
 96. Winters RA, Hamilton DN, Bhatnagar AS, Fitzgerald R, **Bovin N**, Miller DJ (2018). Porcine sperm binding to oviduct cells and glycans as supplements to traditional laboratory semen analysis. *J Anim Sci* 96 (12), 5265–5275, [10.1093/jas/sky372](https://doi.org/10.1093/jas/sky372)
 97. Henry SM, **Bovin NV** (2018). Kode Technology—a universal cell surface glycan modification technology. *J ROY SOC NEW ZEAL* 49 (2), 100–113, [10.1080/03036758.2018.1546195](https://doi.org/10.1080/03036758.2018.1546195)
 98. Sood A, Gerlits OO, Ji Y, **Bovin NV**, Coates L, Woods RJ (2018). Defining the Specificity of Carbohydrate-Protein Interactions by Quantifying Functional Group Contributions. *J Chem Inf Model* 58 (9), 1889–1901, [10.1021/acs.jcim.8b00120](https://doi.org/10.1021/acs.jcim.8b00120)
 99. Vagianou CD, Stuhr-Hansen N, Moll K, **Bovin N**, Wahlgren M, Blixt O (2018). ABO Blood Group Antigen Decorated Giant Unilamellar Vesicles Exhibit Distinct Interactions with Plasmodium falciparum Infected Red Blood Cells. *ACS Chem Biol* 13 (9), 2421–2426, [10.1021/acscchembio.8b00635](https://doi.org/10.1021/acscchembio.8b00635)
 100. Tiralongo J, Cooper O, Litfin T, Yang Y, King R, Zhan J, Zhao H, **Bovin N**, Day CJ, Zhou Y (2018). YesU from *Bacillus subtilis* preferentially binds fucosylated glycans. *Sci Rep* 8 (1), 13139, [10.1038/s41598-018-31241-8](https://doi.org/10.1038/s41598-018-31241-8)
 101. Gambaryan AS, Matrosovich TY, Boravleva EY, Lomakina NF, Yamnikova SS, Tuzikov AB, Pazynina GV, **Bovin NV**, Fouchier RAM, Klenk HD, Matrosovich MN (2018). Receptor-binding properties of influenza viruses isolated from gulls. *Virology* 522, 37–45, [10.1016/j.virol.2018.07.004](https://doi.org/10.1016/j.virol.2018.07.004)
 102. Barbé L, Le Moullac-Vaidye B, Echasserieau K, Bernardeau K, Carton T, **Bovin N**, Nordgren J, Svensson L, Ruvoën-Clouet N, Le Pendu J (2018). Histo-blood group antigen-binding specificities of human rotaviruses are associated with gastroenteritis but not with in vitro infection. *Sci Rep* 8 (1), 12961, [10.1038/s41598-018-31005-4](https://doi.org/10.1038/s41598-018-31005-4)
 103. Ryzhov IM, Tuzikov AB, Perry H, Korchagina EY, **Bovin NV** (2018). Blood Group O→A Transformation by Chemical Ligation of Erythrocytes. *Chembiochem* 20 (2), 131–133, [10.1002/cbic.201800289](https://doi.org/10.1002/cbic.201800289)
 104. Pazynina GV, Tsygankova SV, Ryzhov IM, Paramonov AS, **Bovin NV** (2018). Synthesis of H (type 4) trisaccharide, key structural fragment of globo-H and fucosyl-GM1 cancer-associated antigens. *MENDELEEV COMMUN* 28 (4), 421–422, [10.1016/j.mencom.2018.07.027](https://doi.org/10.1016/j.mencom.2018.07.027)
 105. Rapoport EM, Matveeva VK, Vokhmyanina OA, Belyanchikov IM, Gabius HJ, **Bovin NV** (2018). Localization of Galectins within Glycocalyx. *Biochemistry (Mosc)* 83 (6), 727–737, [10.1134/S000629791806010X](https://doi.org/10.1134/S000629791806010X)
 106. Tretiakova D, Onishchenko N, Boldyrev I, Mikhalyov I, Tuzikov A, **Bovin N**, Evtushenko E, Vodovozova E (2018). Influence of stabilizing components on the integrity of antitumor liposomes loaded with lipophilic prodrug in the bilayer. *Colloids Surf B Biointerfaces* 166, 45–53, [10.1016/j.colsurfb.2018.02.061](https://doi.org/10.1016/j.colsurfb.2018.02.061)
 107. Khasbiullina NR, Shilova NV, Navakouski ME, Nokel AY, Knirel YA, Blixt O, **Bovin NV** (2018). Repertoire of Abs primed by bacteria in gnotobiotic mice. *Innate Immun* 24 (3), 180–187, [10.1177/1753425918763524](https://doi.org/10.1177/1753425918763524)
 108. (конференция) Vaskan IS, Solovyeva DO, Chistyakov AA, Efremov RG, Volynsky PE, Shtykova EV, Korchagina EYu, Mochalov KE, **Bovin NV**, Oleinikov VA (2018). Neoglycolipids Micelle-like Structures as a Basis for Drug Delivery Systems. *KnE Energy* 3 (2), 519–527, [10.18502/ken.v3i2.1860](https://doi.org/10.18502/ken.v3i2.1860)
 109. Lee N, Khalenkov AM, Lugovtsev VY, Ireland DD, Samsonova AP, **Bovin NV**, Donnelly RP, Ilyushina NA (2018). The use of plant lectins to regulate H1N1 influenza A virus receptor binding activity. *PLoS One* 13 (4), e0195525, [10.1371/journal.pone.0195525](https://doi.org/10.1371/journal.pone.0195525)
 110. Rapoport EM, Khaidukov SV, Gaponov AM, Pazynina GV, Tsygankova SV, Ryzhov IM, Belyanchikov IM, Milona P, **Bovin NV**, McCullough KC (2018). Glycan recognition by human blood mononuclear cells with an emphasis on dendritic cells. *Glycoconj J* 35 (2), 191–203, [10.1007/s10719-017-9811-6](https://doi.org/10.1007/s10719-017-9811-6)
 111. Navakouski M, Shilova N, Khasbiullina N, Feofanov A, Pudova E, Chen K, Blixt O, **Bovin N** (2018). Improved spot morphology for printed glycan arrays. *Biotechniques* 64 (3), 110–116, [10.2144/btn-2017-0111](https://doi.org/10.2144/btn-2017-0111)
 112. Winters RA, Nettenstrom LM, Lopez DG, Willenburg KL, Vishwanath R, **Bovin NV**, Miller DJ (2018). Effect of sorting boar spermatozoa by sex chromosomes on oviduct cell binding. *Theriogenology* 108, 22–28, [10.1016/j.theriogenology.2017.11.010](https://doi.org/10.1016/j.theriogenology.2017.11.010)

113. Benedetti E, Pučić-Baković M, Keser T, Wahl A, Hassinen A, Yang JY, Liu L, Trbojević-Akmačić I, Razdorov G, Štambuk J, Klarić L, Ugrina I, Selman MHJ, Wuhner M, Rudan I, Polasek O, Hayward C, Grallert H, Strauch K, Peters A, Meitinger T, Gieger C, Vilaj M, Boons GJ, Moremen KW, Ovchinnikova T, **Bovin N**, Kellokumpu S, Theis FJ, Lauc G, Krumsiek J (2018). Publisher Correction: Network inference from glycoproteomics data reveals new reactions in the IgG glycosylation pathway. *Nat Commun* 9 (1), 706, [10.1038/s41467-017-02379-2](https://doi.org/10.1038/s41467-017-02379-2)
114. Henry S, Williams E, Barr K, Korchagina E, Tuzikov A, Ilyushina N, Abayzeed SA, Webb KF, **Bovin N** (2018). Rapid one-step biotinylation of biological and non-biological surfaces. *Sci Rep* 8 (1), 2845, [10.1038/s41598-018-21186-3](https://doi.org/10.1038/s41598-018-21186-3)
115. Lopes AM, Breiman A, Lora M, Le Moullac-Vaidye B, Galanina O, Nyström K, Marchandeu S, Le Gall-Reculé G, Strive T, Neimanis A, **Bovin NV**, Ruvoën-Clouet N, Esteves PJ, Abrantes J, Le Pendu J (2018). Hostspecific glycans are correlated with susceptibility to infection by lagoviruses, but not with their virulence. *J Virol* 92 (4), , [10.1128/JVI.01759-17](https://doi.org/10.1128/JVI.01759-17)
116. Day CJ, Paton AW, Harvey RM, Hartley-Tassell LE, Seib KL, Tiralongo J, **Bovin N**, Savino S, Massignani V, Paton JC, Jennings MP (2017). Lectin activity of the pneumococcal pilin proteins. *Sci Rep* 7 (1), 17784, [10.1038/s41598-017-17850-9](https://doi.org/10.1038/s41598-017-17850-9)
117. Benedetti E, Pučić-Baković M, Keser T, Wahl A, Hassinen A, Yang JY, Liu L, Trbojević-Akmačić I, Razdorov G, Štambuk J, Klarić L, Ugrina I, Selman MHJ, Wuhner M, Rudan I, Polasek O, Hayward C, Grallert H, Strauch K, Peters A, Meitinger T, Gieger C, Vilaj M, Boons GJ, Moremen KW, Ovchinnikova T, **Bovin N**, Kellokumpu S, Theis FJ, Lauc G, Krumsiek J (2017). Network inference from glycoproteomics data reveals new reactions in the IgG glycosylation pathway. *Nat Commun* 8 (1), 1483, [10.1038/s41467-017-01525-0](https://doi.org/10.1038/s41467-017-01525-0)
118. Bello-Gil D, Khasbiullina N, Shilova N, **Bovin N**, Mañez R (2017). Repertoire of BALB/c mice natural anti-carbohydrate antibodies: Mice vs. humans difference, and otherness of individual animals. *Front Immunol* 8 (NOV), 1449, [10.3389/fimmu.2017.01449](https://doi.org/10.3389/fimmu.2017.01449)
119. Orlova AV, Laptinskaya TV, **Bovin NV**, Kononov LO (2017). Differences in reactivity of N-acetyl- and N,N-diacetylsialyl chlorides caused by their different supramolecular organization in solutions. *Russ Chem Bull* 66 (11), 2173–2179, [10.1007/s11172-017-1999-x](https://doi.org/10.1007/s11172-017-1999-x)
120. Volynsky P, Efremov R, Mikhalev I, Dobrochaeva K, Tuzikov A, Korchagina E, Obukhova P, Rapoport E, **Bovin N** (2017). Why human anti-Gal α 1–4Gal β 1–4Glc natural antibodies do not recognize the trisaccharide on erythrocyte membrane? Molecular dynamics and immunochemical investigation. *Mol Immunol* 90, 87–97, [10.1016/j.molimm.2017.06.247](https://doi.org/10.1016/j.molimm.2017.06.247)
121. Chugh M, Piskarev V, Galanina O, Khasbiullina N, Kadam P, Shilova N, Pazynina G, Dobrochaeva K, Bhanushali P, Kozlov N, Tupitsin N, **Bovin N** (2017). Glycoprotein CA19.9-specific monoclonal antibodies recognize sialic acid-independent glycotope. *Tumour Biol* 39 (10), 1–7, [10.1177/1010428317725434](https://doi.org/10.1177/1010428317725434)
122. Ludwig AK, Michalak M, Shilova N, André S, Kaltner H, **Bovin NV**, Kopitz J, Gabius HJ (2017). Studying the structural significance of galectin design by playing a modular puzzle: Homodimer generation from human tandem-repeat-type (heterodimeric) galectin-8 by domain shuffling. *Molecules* 22 (9), , [10.3390/molecules22091572](https://doi.org/10.3390/molecules22091572)
123. Ilyushina NA, Lugovtsev VY, Samsonova AP, Sheikh FG, **Bovin NV**, Donnelly RP (2017). Generation and characterization of interferon-lambda 1-resistant H1N1 influenza A viruses. *PLoS One* 12 (7), e0181999, [10.1371/journal.pone.0181999](https://doi.org/10.1371/journal.pone.0181999)
124. Silva E, Frost D, Li L, **Bovin N**, Miller DJ (2017). Lactadherin is a candidate oviduct Lewis X trisaccharide receptor on porcine spermatozoa. *Andrology* 5 (3), 589–597, [10.1111/andr.12340](https://doi.org/10.1111/andr.12340)
125. Alam S, Anugraham M, Huang YL, Kohler RS, Hettich T, Winkelbach K, Grether Y, López MN, Khasbiullina N, **Bovin NV**, Schlotterbeck G, Jacob F (2017). Altered (neo-) lacto series glycolipid biosynthesis impairs α 2-6 sialylation on N-glycoproteins in ovarian cancer cells. *Sci Rep* 7, 45367, [10.1038/srep45367](https://doi.org/10.1038/srep45367)
126. Maerle AV, Voronina DV, Dobrochaeva KL, Galanina OE, Alekseev LP, **Bovin NV**, Zavriev SK, Ryazantsev DY (2017). Immuno-PCR technology for detection of natural human antibodies against Lecdisaccharide. *Glycoconj J* 34 (2), 199–205, [10.1007/s10719-016-9751-6](https://doi.org/10.1007/s10719-016-9751-6)
127. Pochechueva T, Alam S, Schötzau A, Chinarev A, **Bovin NV**, Hacker NF, Jacob F, Heinzelmann-Schwarz V (2017). Naturally occurring anti-glycan antibodies binding to Globo H-expressing cells identify ovarian cancer patients. *J Ovarian Res* 10 (1), 8, [10.1186/s13048-017-0305-8](https://doi.org/10.1186/s13048-017-0305-8)

128. Wang X, Ilyushina NA, Lugovtsev VY, **Bovin NV**, Couzens LK, Gao J, Donnelly RP, Eichelberger MC, Wan H (2017). Amino acids in hemagglutinin antigenic site B determine antigenic and receptor binding differences between A(H3N2)v and ancestral seasonal H3N2 influenza viruses. *J Virol* 91 (2), , [10.1128/JVI.01512-16](https://doi.org/10.1128/JVI.01512-16)
129. Tyrtyshev TV, Korchagina EY, Ryzhov IM, **Bovin NV** (2017). Gram scale synthesis of A (type 2) and B (type 2) blood group tetrasaccharides through 1,6-anhydro-N-acetyl- β -D-glucosamine. *Carbohydr Res* 449, 65–84, [10.1016/j.carres.2017.06.014](https://doi.org/10.1016/j.carres.2017.06.014)
130. Pazynina G, Sablina M, Ovchinnikova T, Tyrtyshev T, Tsygankova S, Tuzikov A, Dobrochaeva K, Shilova N, Khasbiullina N, **Bovin N** (2017). Synthetic glyco-O-sulfatome for profiling of human natural antibodies. *Carbohydr Res* 445, 23–31, [10.1016/j.carres.2017.03.015](https://doi.org/10.1016/j.carres.2017.03.015)
131. Ziganshina MM, Abdurakhmanova NF, Pavlovich SV, Gvozdeva AD, **Bovin NV**, Sukhikh GT (2017). Endometrial glycome in the menstrual cycle and endometrial receptivity. *Akush Ginekol (Mosk)* (12), 17–24, [10.18565/aig.2017.12.17-24](https://doi.org/10.18565/aig.2017.12.17-24)
132. Barr K, Kannan B, Korchagina E, Popova I, Ryzhov I, Henry S, **Bovin N** (2016). Biofunctionalizing nanofibers with carbohydrate blood group antigens. *Biopolymers* 105 (11), 787–794, [10.1002/bip.22907](https://doi.org/10.1002/bip.22907)
133. Perry H, **Bovin N**, Henry S (2016). Antibody complement-mediated hemolytic studies with kodeocytes reveal that human complement utilized in the classical pathway is more stable than generally accepted. *Transfusion* 56 (10), 2495–2501, [10.1111/trf.13719](https://doi.org/10.1111/trf.13719)
134. Pochechueva T, Chinarev A, Schoetzau A, Fedier A, **Bovin NV**, Hacker NF, Jacob F, Heinzelmann-Schwarz V (2016). Blood plasma-derived anti-glycan antibodies to sialylated and sulfated glycans identify ovarian cancer patients. *PLoS One* 11 (10), e0164230, [10.1371/journal.pone.0164230](https://doi.org/10.1371/journal.pone.0164230)
135. García Caballero G, Flores-Ibarra A, Michalak M, Khasbiullina N, **Bovin NV**, André S, Manning JC, Vértessy S, Ruiz FM, Kaltner H, Kopitz J, Romero A, Gabius HJ (2016). Galectin-related protein: An integral member of the network of chicken galectins 1. From strong sequence conservation of the gene confined to vertebrates to biochemical characteristics of the chicken protein and its crystal structure. *BIOCHIM BIOPHYS ACTA* 1860 (10), 2285–2297, [10.1016/j.bbagen.2016.06.001](https://doi.org/10.1016/j.bbagen.2016.06.001)
136. Pazynina GV, Tsygankova SV, Sablina MA, Paramonov AS, Tuzikov AB, **Bovin NV** (2016). Stereo- and regioselective synthesis of spacer armed α 2-6 sialooligosaccharides. *MENDELEEV COMMUN* 26 (5), 380–382, [10.1016/j.mencom.2016.09.004](https://doi.org/10.1016/j.mencom.2016.09.004)
137. Timofeeva TA, Sadykova GK, Rudneva IA, Boravleva EY, Gambaryan AS, Lomakina NF, Mochalova LV, **Bovin NV**, Usachev EV, Prilipov AG (2016). Changes in the phenotypic properties of highly pathogenic influenza A virus of H5N1 subtype induced by N186I and N186T point mutations in hemagglutinin. *Mol Biol (Mosk)* 50 (5), 855–862, [10.7868/s0026898416050177](https://doi.org/10.7868/s0026898416050177)
138. Timofeeva TA, Sadykova GK, Rudneva IA, Boravleva EY, Gambaryan AS, Lomakina NF, Mochalova LV, **Bovin NV**, Usachev EV, Prilipov AG (2016). Changes in the phenotypic properties of highly pathogenic influenza A virus of H5N1 subtype induced by N186I and N186T point mutations in hemagglutinin. *Mol Biol* 50 (5), 755–761, [10.1134/S0026893316050174](https://doi.org/10.1134/S0026893316050174)
139. García Caballero G, Kaltner H, Michalak M, Shilova N, Yegres M, André S, Ludwig AK, Manning JC, Schmidt S, Schnölzer M, **Bovin NV**, Reusch D, Kopitz J, Gabius HJ (2016). Chicken GRIFIN: A homodimeric member of the galectin network with canonical properties and a unique expression profile. *Biochimie* 128129, 34–47, [10.1016/j.biochi.2016.06.001](https://doi.org/10.1016/j.biochi.2016.06.001)
140. Ryzhov IM, Korchagina EY, Popova IS, Tyrtyshev TV, Paramonov AS, **Bovin NV** (2016). Block synthesis of A (type 2) and B (type 2) tetrasaccharides related to the human ABO blood group system. *Carbohydr Res* 430, 59–71, [10.1016/j.carres.2016.04.029](https://doi.org/10.1016/j.carres.2016.04.029)
141. Butvilovskaya VI, Popletaeva SB, Chechetkin VR, Zubtsova ZI, Tsybul'skaya M, Samokhina LO, Vinnitskii LI, Ragimov AA, Pozharitskaya EI, Grigoreva GA, Meshalkina NY, Golysheva SV, Shilova NV, **Bovin NV**, Zasedatelev AS, Rubina AY (2016). Multiplex determination of serological signatures in the sera of colorectal cancer patients using hydrogel biochips. *Cancer Med* 5 (7), 1361–1372, [10.1002/cam4.692](https://doi.org/10.1002/cam4.692)
142. Pazynina GV, Tsygankova SV, Sablina MA, Paramonov AS, Formanovsky AA, **Bovin NV** (2016). Synthesis of blood group pentasaccharides A_{Ley}, B_{Ley} and related tri- and tetrasaccharides. *MENDELEEV COMMUN* 26 (2), 103–105, [10.1016/j.mencom.2016.03.005](https://doi.org/10.1016/j.mencom.2016.03.005)
143. Ziganshina MM, Shilova NV, Khasbiullina NR, Novakovskiy ME, Nikolaeva MA, Kan NE, Vavina OV, Nikolaeva AV, Tyutyunnik NV, Sergunina OA, Bot I, Tyutyunnik VL, **Bovin NV**, Sukhikh GT (2016).

- Autoantibodies against endothelial antigens in preeclampsia. *Akush Ginekol (Mosk)* (3), 24–31, [10.18565/aig.2016.3.24-31](https://doi.org/10.18565/aig.2016.3.24-31)
144. (книга) Ziganshina MM, Shilova NV, Khasbiullina NR, Navakouski ME, Nikolaeva MA, Kan NE, Vavina OV, Nikolaeva AV, Tyutyunnik VL, Tyutyunnik NV, Bot I, Sukhikh GT, **Bovin NV** (2016). Antibodies to hyaluronic acid in preeclampsia. , 313–322.
 145. Kaczmarek R, Duk M, Szymczak K, Korchagina E, Tyborowska J, Mikolajczyk K, **Bovin N**, Szewczyk B, Jaskiewicz E, Czerwinski M (2016). Human Gb3/CD77 synthase reveals specificity toward two or four different acceptors depending on amino acid at position 211, creating Pk, P1 and NOR blood group antigens. *Biochem Biophys Res Commun* 470 (1), 168–174, [10.1016/j.bbrc.2016.01.017](https://doi.org/10.1016/j.bbrc.2016.01.017)
 146. Williams E, Barr K, Korchagina E, Tuzikov A, Henry S, **Bovin N** (2016). Ultra-fast glyco-coating of non-biological surfaces. *Int J Mol Sci* 17 (1), , [10.3390/ijms17010118](https://doi.org/10.3390/ijms17010118)
 147. Ryzhov IM, Korchagina EY, Tuzikov AB, Popova IS, Tyrtsh TV, Pazynina GV, Henry SM, **Bovin NV** (2016). Function-spacer-lipid constructs of Lewis and chimeric Lewis/ABH glycans. Synthesis and use in serological studies. *Carbohydr Res* 435, 83–96, [10.1016/j.carres.2016.09.016](https://doi.org/10.1016/j.carres.2016.09.016)
 148. Ziganshina MM, Pavlovich SV, **Bovin NV**, Sukhikh GT (2016). Hyaluronic acid in vascular and immune homeostasis during normal pregnancy and preeclampsia. *Acta Naturae* 8 (3), 59–71, [10.32607/20758251-2016-8-3-59-71](https://doi.org/10.32607/20758251-2016-8-3-59-71)
 149. Williams E, Korchagina E, Frame T, Ryzhov I, **Bovin N**, Henry S (2015). Glycomapping the fine specificity of monoclonal and polyclonal Lewis antibodies with type-specific Lewis codecytes and function-spacer-lipid constructs printed on paper. *Transfusion* 56 (2), 325–333, [10.1111/trf.13384](https://doi.org/10.1111/trf.13384)
 150. Rapoport EM, Matveeva VK, Kaltner H, André S, Vokhmyanina OA, Pazynina GV, Severov VV, Ryzhov IM, Korchagina EY, Belyanchikov IM, Gabius HJ, **Bovin NV** (2015). Comparative lectinology: Delineating glycan-specificity profiles of the chicken galectins using neoglycoconjugates in a cell assay. *Glycobiology* 25 (7), 726–734, [10.1093/glycob/cwv012](https://doi.org/10.1093/glycob/cwv012)
 151. Ovchinnikova TV, Pshezhetsky AV, Tuzikov AB, **Bovin NV** (2015). Synthesis of 1-BODIPY-labeled 2-amino-2-deoxy-d-glucose, substrate for acetyl-CoA:glucosaminide N-acetyltransferase. *MENDELEEV COMMUN* 25 (6), 422–423, [10.1016/j.mencom.2015.11.007](https://doi.org/10.1016/j.mencom.2015.11.007)
 152. Choi Y, Tuzikov AB, Ovchinnikova TV, **Bovin NV**, Pshezhetsky AV (2015). Novel Direct Assay for Acetyl-CoA:α-Glucosaminide N-Acetyltransferase Using BODIPY-Glucosamine as a Substrate. *JIMD Rep* 28, 11–18, [10.1007/8904_2015_501](https://doi.org/10.1007/8904_2015_501)
 153. Waespy M, Gbem TT, Elenschneider L, Jeck AP, Day CJ, Hartley-Tassell L, **Bovin N**, Tiralongo J, Haselhorst T, Kelm S (2015). Carbohydrate Recognition Specificity of Trans-sialidase Lectin Domain from Trypanosoma congolense. *PLoS Negl Trop Dis* 9 (10), e0004120, [10.1371/journal.pntd.0004120](https://doi.org/10.1371/journal.pntd.0004120)
 154. Pazynina GV, Tsygankova SV, **Bovin NV** (2015). Synthesis of glycoprotein N-chain core fragment GlcNAcβ1-4(Fucα1-6)GlcNAc. *MENDELEEV COMMUN* 25 (4), 250–251, [10.1016/j.mencom.2015.07.004](https://doi.org/10.1016/j.mencom.2015.07.004)
 155. Shilova N, Huflejt ME, Vuskovic M, Obukhova P, Navakouski M, Khasbiullina N, Pazynina G, Galanina O, Bazhenov A, **Bovin N** (2015). Natural antibodies against sialoglycans. *Top Curr Chem (J)* 366, 169–182, [10.1007/1282013469](https://doi.org/10.1007/1282013469)
 156. Rapoport EM, **Bovin NV** (2015). Specificity of human galectins on cell surfaces. *Biochemistry (Mosc)* 80 (7), 846–856, [10.1134/S0006297915070056](https://doi.org/10.1134/S0006297915070056)
 157. Khasbiullina NR, **Bovin NV** (2015). Hypotheses of the origin of natural antibodies: A glycobiologist's opinion. *Biochemistry (Mosc)* 80 (7), 820–835, [10.1134/S0006297915070032](https://doi.org/10.1134/S0006297915070032)
 158. Frederiksen RF, Yoshimura Y, Storgaard BG, Paspaliari DK, Petersen BO, Chen K, Larsen T, Duus J, Ingmer H, **Bovin NV**, Westerlind U, Blixt O, Palcic MM, Leisner JJ (2015). A diverse range of bacterial and eukaryotic chitinases hydrolyzes the lacNAc (galβ1-4GlcNAc) and lacdinac (GalNAcβ1-4GlcNAc) motifs found on vertebrate and insect cells. *J Biol Chem* 290 (9), 5354–5366, [10.1074/jbc.M114.607291](https://doi.org/10.1074/jbc.M114.607291)
 159. Barr K, Korchagina E, Popova I, **Bovin N**, Henry S (2015). Monoclonal anti-A activity against the FORS1 (Forssman) antigen. *Transfusion* 55 (1), 129–136, [10.1111/trf.12773](https://doi.org/10.1111/trf.12773)
 160. Саблина МА, Тузиков АБ, Овчинникова ТВ, Михура ИВ, **БОВИН НВ** (2015). Синтез моно- и ди-О-сульфатов спейсированной лактозы. (5), 1125–1133.
 161. Kaverin NV, Rudneva IA, Timofeeva TA, Ignatieva AV, Shilov AA, **Bovin NV**, Ilyushina NA (2015). Pleiotropic effects of amino acid substitutions in H5 hemagglutinin of influenza A escape mutants. *Virus Res* 210, 81–89,

[10.1016/j.virusres.2015.07.016](https://doi.org/10.1016/j.virusres.2015.07.016)

162. Severov VV, Pazynina GV, Ovchinnikova TV, **Bovin NV** (2015). The synthesis of oligosaccharides containing internal and terminal Gal β 1-3GlcNAc β fragments. *Russ. J. Bioorganic Chem.* 41 (2), 147–160, [10.1134/S1068162015020120](https://doi.org/10.1134/S1068162015020120)
163. Alekseeva A, Kapkaeva M, Shcheglovitova O, Boldyrev I, Pazynina G, **Bovin N**, Vodovozova E (2015). Interactions of antitumour Sialyl Lewis X liposomes with vascular endothelial cells. *BIOCHIM BIOPHYS ACTA* 1848 (5), 1099–1110, [10.1016/j.bbamem.2015.01.016](https://doi.org/10.1016/j.bbamem.2015.01.016)
164. Heider A, Mochalova L, Harder T, Tuzikov A, **Bovin N**, Wolff T, Matrosovich M, Schweiger B (2015). Alterations in hemagglutinin receptor-binding specificity accompany the emergence of highly pathogenic avian influenza viruses. *J Virol* 89 (10), 5395–5405, [10.1128/JVI.03304-14](https://doi.org/10.1128/JVI.03304-14)
165. Solís D, **Bovin NV**, Davis AP, Jiménez-Barbero J, Romero A, Roy R, Smetana K, Gabius HJ (2015). A guide into glycosciences: How chemistry, biochemistry and biology cooperate to crack the sugar code. *BIOCHIM BIOPHYS ACTA* 1850 (1), 186–235, [10.1016/j.bbagen.2014.03.016](https://doi.org/10.1016/j.bbagen.2014.03.016)
166. Machado SA, Kadirvel G, Daigneault BW, Korneli C, Miller P, **Bovin N**, Miller DJ (2014). LewisX-containing glycans on the porcine oviductal epithelium contribute to formation of the sperm reservoir. *Biol Reprod* 91 (6), 140, [10.1095/biolreprod.114.119503](https://doi.org/10.1095/biolreprod.114.119503)
167. Jacob F, Anugraham M, Pochechueva T, Tse BWC, Alam S, Guertler R, **Bovin NV**, Fedier A, Hacker NF, Huflejt ME, Packer N, Heinzelmann-Schwarz VA (2014). The glycosphingolipid P1is an ovarian cancer-associated carbohydrate antigen involved in migration. *Br J Cancer* 111 (8), 1634–1645, [10.1038/bjc.2014.455](https://doi.org/10.1038/bjc.2014.455)
168. Pochechueva T, Chinarev A, **Bovin N**, Fedier A, Jacob F, Heinzelmann-Schwarz V (2014). PEGylation of microbead surfaces reduces unspecific antibody binding in glycan-based suspension array. *Immunotechnology* 412, 42–52, [10.1016/j.jim.2014.06.015](https://doi.org/10.1016/j.jim.2014.06.015)
169. Smutova V, Albohy A, Pan X, Korchagina E, Miyagi T, **Bovin N**, Cairo CW, Pshezhetsky AV (2014). Structural basis for substrate specificity of mammalian neuraminidases. *PLoS One* 9 (9), e106320, [10.1371/journal.pone.0106320](https://doi.org/10.1371/journal.pone.0106320)
170. Tsygankova SV, Chinarev AA, Tuzikov AB, Severin N, Kalachev AA, Rabe JP, Gambaryan AS, **Bovin NV** (2014). Biantennary oligoglycines and glyco-oligoglycines self-associating in aqueous medium. *Beilstein J Org Chem* 10, 1372–1382, [10.3762/bjoc.10.140](https://doi.org/10.3762/bjoc.10.140)
171. Kuznetsova NR, Stepanova EV, Peretolchina NM, Khochenkov DA, Boldyrev IA, **Bovin NV**, Vodovozova EL (2014). Targeting liposomes loaded with melphalan prodrug to tumour vasculature via the Sialyl Lewis X selectin ligand. *J Drug Target* 22 (3), 242–250, [10.3109/1061186X.2013.862805](https://doi.org/10.3109/1061186X.2013.862805)
172. Larsen T, Yoshimura Y, Voldborg BGR, Cazzamali G, **Bovin NV**, Westerlind U, Palcic MM, Leisner JJ (2014). Human chitotriosidase CHIT1 cross reacts with mammalian-like substrates. *FEBS Lett* 588 (5), 746–751, [10.1016/j.febslet.2013.12.035](https://doi.org/10.1016/j.febslet.2013.12.035)
173. Kondakov NN, MelNikova TM, Zinin AI, Torgov VI, Chizhov AO, Gordeeva EA, **Bovin NV**, Kononov LO (2014). Synthesis of 3,6-di-O-methyl- β -d-glucopyranose conjugates. *Russ Chem Bull* 63 (2), 501–506, [10.1007/s11172-014-0460-7](https://doi.org/10.1007/s11172-014-0460-7)
174. Silva E, Kadirvel G, Jiang R, **Bovin N**, Miller D (2014). Multiple proteins from ejaculated and epididymal porcine spermatozoa bind glycan motifs found in the oviduct. *Andrology* 2 (5), 763–771, [10.1111/j.2047-2927.2014.00249.x](https://doi.org/10.1111/j.2047-2927.2014.00249.x)
175. Knirel YA, Gabius HJ, Blixt O, Rapoport EM, Khasbiullina NR, Shilova NV, **Bovin NV** (2014). Human tandem-repeat-type galectins bind bacterial non- β Gal polysaccharides. *Glycoconj J* 31 (1), 7–12, [10.1007/s10719-013-9497-3](https://doi.org/10.1007/s10719-013-9497-3)
176. Barr K, Korchagina E, Ryzhov I, **Bovin N**, Henry S (2014). Mapping the fine specificity of ABO monoclonal reagents with A and B type-specific function-spacer-lipid constructs in kodeocytes and inkjet printed on paper. *Transfusion* 54 (10), 2477–2484, [10.1111/trf.12661](https://doi.org/10.1111/trf.12661)
177. Ilyushina NA, Chernyy ES, Korchagina EY, Gambaryan AS, Henry SM, **Bovin NV** (2014). Labeling of influenza viruses with synthetic fluorescent and biotin-labeled lipids. *Virol Sin* 29 (4), 199–210, [10.1007/s12250-014-3475-1](https://doi.org/10.1007/s12250-014-3475-1)
178. Timofeeva TA, Ignatieva AV, Rudneva IA, Mochalova LV, **Bovin NV**, Kaverin NV (2013). Effect of mutations changing the antigenic specificity on the receptor-binding activity of the influenza virus hemagglutinin of H1

- and H5 subtypes. *Vopr Virusol* 58 (1), 24–27.
179. Xiong X, Tuzikov A, Coombs PJ, Martin SR, Walker PA, Gamblin SJ, **Bovin N**, Skehel JJ (2013). Recognition of sulphated and fucosylated receptor sialosides by A/Vietnam/1194/2004 (H5N1) influenza virus. *Virus Res* 178 (1), 12–14, [10.1016/j.virusres.2013.08.007](https://doi.org/10.1016/j.virusres.2013.08.007)
180. Vuskovic M, Barbuti AM, Goldsmith-Rooney E, Glassman L, **Bovin N**, Pass H, Tchou-Wong KM, Chen M, Yan B, Niu J, Qu Q, Costa M, Huflejt M (2013). Plasma anti-glycan antibody profiles associated with nickel level in urine. *J Proteomics Bioinform* 6 (12), 302–312, [10.4172/jpb.1000295](https://doi.org/10.4172/jpb.1000295)
181. **Bovin NV** (2013). Natural antibodies to glycans. *Biochemistry (Mosc)* 78 (7), 786–797, [10.1134/S0006297913070109](https://doi.org/10.1134/S0006297913070109)
182. Rosenberg C, **Bovin NV**, Bram LV, Flyvbjerg E, Erlandsen M, Vorup-Jensen T, Petersen E (2013). Age is an important determinant in humoral and T cell responses to immunization with hepatitis B surface antigen. *Hum Vaccin Immunother* 9 (7), 1466–1476, [10.4161/hv.24480](https://doi.org/10.4161/hv.24480)
183. Zhang F, Walcott B, Zhou D, Gustchina A, Lasanajak Y, Smith DF, Ferreira RS, Correia MTS, Paiva PMG, **Bovin NV**, Wlodawer A, Oliva MLV, Linhardt RJ (2013). Structural studies of the interaction of crataeva tapia bark protein with heparin and other glycosaminoglycans. *Biochemistry* 52 (12), 2148–2156, [10.1021/bi400077b](https://doi.org/10.1021/bi400077b)
184. Pazynina G, Tyrtysch T, Nasonov V, Belyanchikov I, Paramonov A, Malysheva N, Zinin A, Kononov L, **Bovin N** (2013). Divergent strategy for the synthesis of α 2-3-linked sialo-oligosaccharide libraries using a Neu5TFA- (α 2-3)-gal building block. *Synlett* 24 (2), 226–230, [10.1055/s-0032-1317961](https://doi.org/10.1055/s-0032-1317961)
185. Ziganshina MM, **Bovin NV**, Sukhikh GT (2013). Natural antibodies as a key element of the mechanism supporting homeostasis in immune system. *Immunologiya* 34 (5), 277–282.
186. Kadirvel G, Machado SA, Korneli C, Collins E, Miller P, Bess KN, Aoki K, Tiemeyer M, **Bovin N**, Miller DJ (2012). Porcine sperm bind to specific 6-sialylated biantennary glycans to form the oviduct reservoir. *Biol Reprod* 87 (6), 147, [10.1095/biolreprod.112.103879](https://doi.org/10.1095/biolreprod.112.103879)
187. Ducatez MF, Ilyushina NA, Fabrizio TP, Rehg JE, **Bovin NV**, Webster RG, Webby RJ (2012). Both influenza hemagglutinin and polymerase acidic genes are important for delayed pandemic 2009 H1N1 virus clearance in the ferret model. *Virology* 432 (2), 389–393, [10.1016/j.virol.2012.06.018](https://doi.org/10.1016/j.virol.2012.06.018)
188. Pál Z, Antal P, Srivastava SK, Hullám G, Semsei AF, Gál J, Svébis M, Soós G, Szalai C, André S, Gordeeva E, Nagy G, Kaltner H, **Bovin NV**, Molnár MJ, Falus A, Gabius HJ, Buzás EI (2012). Non-synonymous single nucleotide polymorphisms in genes for immunoregulatory galectins: Association of galectin-8 (F19Y) occurrence with autoimmune diseases in a Caucasian population. *BIOCHIM BIOPHYS ACTA* 1820 (10), 1512–1518, [10.1016/j.bbagen.2012.05.015](https://doi.org/10.1016/j.bbagen.2012.05.015)
189. **Bovin N**, Obukhova P, Shilova N, Rapoport E, Popova I, Navakouski M, Unverzagt C, Vuskovic M, Huflejt M (2012). Repertoire of human natural anti-glycan immunoglobulins. Do we have auto-antibodies? *BIOCHIM BIOPHYS ACTA* 1820 (9), 1373–1382, [10.1016/j.bbagen.2012.02.005](https://doi.org/10.1016/j.bbagen.2012.02.005)
190. Vokhmyanina OA, Rapoport EM, André S, Severov VV, Ryzhov I, Pazynina GV, Korchagina E, Gabius HJ, **Bovin NV** (2012). Comparative study of the glycan specificities of cell-bound human tandem-repeat-type galectin-4,-8 and-9. *Glycobiology* 22 (9), 1207–1217, [10.1093/glycob/cws079](https://doi.org/10.1093/glycob/cws079)
191. Korchagina E, Tuzikov A, Formanovsky A, Popova I, Henry S, **Bovin N** (2012). Toward creating cell membrane glyco-landscapes with glycan lipid constructs. *Carbohydr Res* 356, 238–246, [10.1016/j.carres.2012.03.044](https://doi.org/10.1016/j.carres.2012.03.044)
192. Pazynina GV, Popova IS, Belyanchikov IM, Tuzikov AB, **Bovin NV** (2012). Synthesis of trisaccharide 6' SiaLe^c and its 6-O-Su derivative. *MENDELEEV COMMUN* 22 (4), 194–195, [10.1016/j.mencom.2012.06.007](https://doi.org/10.1016/j.mencom.2012.06.007)
193. Kuznetsova NR, Sevrin C, Lespineux D, **Bovin NV**, Vodovozova EL, Mészáros T, Szebeni J, Grandfils C (2012). Hemocompatibility of liposomes loaded with lipophilic prodrugs of methotrexate and melphalan in the lipid bilayer. *J Control Release* 160 (2), 394–400, [10.1016/j.jconrel.2011.12.010](https://doi.org/10.1016/j.jconrel.2011.12.010)
194. Rudneva I, Ignatieva A, Timofeeva T, Shilov A, Kushch A, Masalova O, Klimova R, **Bovin N**, Mochalova L, Kaverin N (2012). Escape mutants of pandemic influenza A/H1N1 2009 virus: Variations in antigenic specificity and receptor affinity of the hemagglutinin. *Virus Res* 166 (12), 61–67, [10.1016/j.virusres.2012.03.003](https://doi.org/10.1016/j.virusres.2012.03.003)
195. Ilyushina NA, **Bovin NV**, Webster RG (2012). Decreased neuraminidase activity is important for the adaptation of H5N1 influenza virus to human airway epithelium. *J Virol* 86 (9), 4724–4733,

[10.1128/JVI.06774-11](https://doi.org/10.1128/JVI.06774-11)

196. Ryzhov IM, Korchagina EY, Popova IS, **Bovin NV** (2012). Block synthesis of A tetrasaccharides (types 1, 3, and 4) related to the human ABO blood group system. *Carbohydr Res* 351, 17–25, [10.1016/j.carres.2011.12.013](https://doi.org/10.1016/j.carres.2011.12.013)
197. Obukhova P, Korchagina E, Henry S, **Bovin N** (2012). Natural anti-A and anti-B of the ABO system: Allo- and autoantibodies have different epitope specificity. *Transfusion* 52 (4), 860–869, [10.1111/j.1537-2995.2011.03381.x](https://doi.org/10.1111/j.1537-2995.2011.03381.x)
198. Blixt O, Lavrova OI, Mazurov DV, Cló E, Kračun SK, **Bovin NV**, Filatov AV (2012). Analysis of Tn antigenicity with a panel of new IgM and IgG1 monoclonal antibodies raised against leukemic cells. *Glycobiology* 22 (4), 529–542, [10.1093/glycob/cwr178](https://doi.org/10.1093/glycob/cwr178)
199. Shilova N, Navakouski M, Khasbiullina N, Blixt O, **Bovin N** (2012). Printed glycan array: Antibodies as probed in undiluted serum and effects of dilution. *Glycoconj J* 29 (23), 87–91, [10.1007/s10719-011-9368-8](https://doi.org/10.1007/s10719-011-9368-8)
200. Gambaryan AS, Matrosovich TY, Philipp J, Munster VJ, Fouchier RAM, Cattoli G, Capua I, Krauss SL, Webster RG, Banks J, **Bovin NV**, Klenk HD, Matrosovich MN (2012). Receptor-binding profiles of H7 subtype influenza viruses in different host species. *J Virol* 86 (8), 4370–4379, [10.1128/JVI.06959-11](https://doi.org/10.1128/JVI.06959-11)
201. Banz Y, Hess OM, Meier P, Korchagina EY, Gordeeva EA, Robson SC, Gajanayake T, Csizmadia E, Mettler D, Haeberli A, **Bovin NV**, Rieben R (2012). Evaluation of multimeric tyrosine-o-sulfate as a cytoprotectant in an in vivo model of acute myocardial infarction in pigs. *Cardiology* 121 (1), 59–70, [10.1159/000336485](https://doi.org/10.1159/000336485)
202. Jacob F, Goldstein DR, **Bovin NV**, Pochechueva T, Spengler M, Caduff R, Fink D, Vuskovic MI, Huflejt ME, Heinzlmann-Schwarz V (2012). Serum antiglycan antibody detection of nonmucinous ovarian cancers by using a printed glycan array. *Int J Cancer* 130 (1), 138–146, [10.1002/ijc.26002](https://doi.org/10.1002/ijc.26002)
203. Galanina OE, Chinarev AA, Shilova NV, Sablina MA, **Bovin NV** (2012). Immobilization of polyacrylamide-based glycoconjugates on solid phase in immunosorbent assays. *Methods Mol Biol* 808, 167–182, [10.1007/978-1-61779-373-812](https://doi.org/10.1007/978-1-61779-373-812)
204. Moiseeva EV, Kuzitsetsova NR, Svirshchevskaya EV, **Bovin NV**, Sitnikov NS, Shavyrin AS, Beletskaya IP, Combes S, Fedorov AY, Vodovozova EL (2012). Liposome formulations of combretastatin A4 and 4-aryl coumarin analog prodrugs: Antitumor effect in the mouse model of breast cancer. *Biomed Khim* 58 (3), 326–338, [10.18097/pbmc20125803326](https://doi.org/10.18097/pbmc20125803326)
205. Obukhova P, Piskarev V, Severov V, Pazynina G, Tuzikov A, Navakouski M, Shilova N, **Bovin N** (2011). Profiling of serum antibodies with printed glycan array: Room for data misinterpretation. *Glycoconj J* 28 (89), 501–506, [10.1007/s10719-011-9355-0](https://doi.org/10.1007/s10719-011-9355-0)
206. Vuskovic MI, Xu H, **Bovin NV**, Pass HI, Huflejt ME (2011). Processing and analysis of serum antibody binding signals from Printed Glycan Arrays for diagnostic and prognostic applications. *Int J Bioinform Res Appl* 7 (4), 402–426, [10.1504/IJBRA.2011.043771](https://doi.org/10.1504/IJBRA.2011.043771)
207. Pochechueva T, Jacob F, Goldstein DR, Huflejt ME, Chinarev A, Caduff R, Fink D, Hacker N, **Bovin NV**, Heinzlmann-Schwarz V (2011). Comparison of printed glycan array, suspension array and ELISA in the detection of human anti-glycan antibodies. *Glycoconj J* 28 (89), 507–517, [10.1007/s10719-011-9349-y](https://doi.org/10.1007/s10719-011-9349-y)
208. Vokhmyanina OA, Rapoport EM, Ryzhov IM, Korchagina EY, Pazynina GV, Severov VV, Kaltner H, André S, Gabius HJ, **Bovin NV** (2011). Carbohydrate specificity of chicken and human tandem-repeat-type galectins-8 in composition of cells. *Biochemistry (Mosc)* 76 (10), 1185–1192, [10.1134/S0006297911100130](https://doi.org/10.1134/S0006297911100130)
209. Hadac EM, Federspiel MJ, Chernyy E, Tuzikov A, Korchagina E, **Bovin NV**, Russell S, Henry SM (2011). Fluorescein and radiolabeled Function-Spacer-Lipid constructs allow for simple in vitro and in vivo bioimaging of enveloped virions. *J Virol Methods* 176 (12), 78–84, [10.1016/j.jviromet.2011.06.005](https://doi.org/10.1016/j.jviromet.2011.06.005)
210. Blake DA, **Bovin NV**, Bess D, Henry SM (2011). FSL constructs: A simple method for modifying cell/virion surfaces with a range of biological markers without affecting their viability. *J Vis Exp* (54), , [10.3791/3289](https://doi.org/10.3791/3289)
211. Chernyy ES, Rapoport EM, Andre S, Kaltner H, Gabius HJ, **Bovin NV** (2011). Galectins promote the interaction of influenza virus with its target cell. *Biochemistry (Mosc)* 76 (8), 958–967, [10.1134/S0006297911080128](https://doi.org/10.1134/S0006297911080128)
212. Shilova NV, Navakouski MJ, Huflejt M, Kuehn A, Grunow R, Blixt O, **Bovin NV** (2011). Changes in the repertoire of natural antibodies caused by immunization with bacterial antigens. *Biochemistry (Mosc)* 76 (7), 862–866, [10.1134/S0006297911070170](https://doi.org/10.1134/S0006297911070170)
213. Prokhorov VV, Klinov DV, Chinarev AA, Tuzikov AB, Gorokhova IV, **Bovin NV** (2011). High-resolution atomic

- force microscopy study of hexaglycylamide epitaxial structures on graphite. *Langmuir* 27 (10), 5879–5890, [10.1021/la103051w](https://doi.org/10.1021/la103051w)
214. Otto DME, Campanero-Rhodes MA, Karamanska R, Powell AK, **Bovin N**, Turnbull JE, Field RA, Blackburn J, Feizi T, Crocker PR (2011). An expression system for screening of proteins for glycan and protein interactions. *Anal Biochem* 411 (2), 261–270, [10.1016/j.ab.2010.12.036](https://doi.org/10.1016/j.ab.2010.12.036)
215. Vodovozova EL, Pazynina GV, **Bovin NV** (2011). Synthesis of diglyceride conjugate of selectin ligand SiaLeX as a vector for targeting of drug-loaded liposomes. *MENDELEEV COMMUN* 21 (2), 69–71, [10.1016/j.mencom.2011.03.002](https://doi.org/10.1016/j.mencom.2011.03.002)
216. Pochechueva T, Chinarev A, Spengler M, Korchagina E, Heinzelmann-Schwarz V, **Bovin N**, Rieben R (2011). Multiplex suspension array for human anti-carbohydrate antibody profiling. *Analyst (Lond)* 136 (3), 560–569, [10.1039/c0an00758g](https://doi.org/10.1039/c0an00758g)
217. Giannecchini S, Clausi V, Di Trani L, Falcone E, Terregino C, Toffan A, Cilloni F, Matrosovich M, Gambaryan AS, **Bovin NV**, Delogu M, Capua I, Donatelli I, Azzi A (2010). Molecular adaptation of an H7N3 wild duck influenza virus following experimental multiple passages in quail and turkey. *Virology* 408 (2), 167–173, [10.1016/j.virol.2010.09.011](https://doi.org/10.1016/j.virol.2010.09.011)
218. Sitnikov NS, Boldyrev IA, Moiseeva EV, Shavyrin AS, Beletskaya IP, Combes S, **Bovin NV**, Fedorov AY, Vodovozova EL (2010). Antitumor liposomes bearing a prodrug of combretastatin A-4 and a tetrasaccharide ligand of selectins. *Russ Chem Bull* 59 (12), 2290–2296, [10.1007/s11172-010-0390-y](https://doi.org/10.1007/s11172-010-0390-y)
219. Pazynina GV, Sablina MA, Nasonov VV, Pustovalova YE, Belyanchikov IM, **Bovin NV** (2010). Synthesis of GalNAc β 1-4GlcNAc β (LacdiNAc) O-sulfates. *MENDELEEV COMMUN* 20 (6), 316–317, [10.1016/j.mencom.2010.11.004](https://doi.org/10.1016/j.mencom.2010.11.004)
220. Ilyushina NA, Ducatez MF, Rehg JE, Marathe BM, Marjuki H, **Bovin NV**, Webster RG, Webby RJ (2010). Does pandemic A/H1N1 virus have the potential to become more pathogenic? *MBio* 1 (5), , [10.1128/mBio.00249-10](https://doi.org/10.1128/mBio.00249-10)
221. Gautam S, Korchagina EY, **Bovin NV**, Federspiel WJ (2010). Specific antibody filter (SAF) binding capacity enhancement to remove anti-A antibodies. *J Biomed Mater Res B Appl Biomater* 95 (2), 475–480, [10.1002/jbm.b.31707](https://doi.org/10.1002/jbm.b.31707)
222. Ilyushina NA, Khalenkov AM, Seiler JP, Forrest HL, **Bovin NV**, Marjuki H, Barman S, Webster RG, Webby RJ (2010). Adaptation of pandemic H1N1 influenza viruses in mice. *J Virol* 84 (17), 8607–8616, [10.1128/JVI.00159-10](https://doi.org/10.1128/JVI.00159-10)
223. Guskova OA, Khalatur PG, Khokhlov AR, Chinarev AA, Tsygankova SV, **Bovin NV** (2010). Surface structures of oligoglycines: A molecular dynamics simulation. *Russ. J. Bioorganic Chem.* 36 (5), 574–580, [10.1134/S1068162010050043](https://doi.org/10.1134/S1068162010050043)
224. Mä B, Matrosovich M, **Bovin N**, Schwemmler M (2010). A polymorphism in the hemagglutinin of the human isolate of a highly pathogenic H5N1 influenza virus determines organ tropism in mice. *J Virol* 84 (16), 8316–8321, [10.1128/JVI.00850-10](https://doi.org/10.1128/JVI.00850-10)
225. Denda-Nagai K, Aida S, Saba K, Suzuki K, Moriyama S, Oo-puthinan S, Tsuiji M, Morikawa A, Kumamoto Y, Sugiura D, Kudo A, Akimoto Y, Kawakami H, **Bovin NV**, Irimura T (2010). Distribution and function of macrophage galactose-type C-type lectin 2 (MGL2/CD301b): Efficient uptake and presentation of glycosylated antigens by dendritic cells. *J Biol Chem* 285 (25), 19193–19204, [10.1074/jbc.M110.113613](https://doi.org/10.1074/jbc.M110.113613)
226. Novozhilova NM, **Bovin NV** (2010). Structure, functions, and biosynthesis of glycoconjugates of Leishmania spp. cell surface. *Biochemistry (Mosc)* 75 (6), 686–694, [10.1134/S0006297910060027](https://doi.org/10.1134/S0006297910060027)
227. Mochalova L, Bright R, Xu X, Korchagina E, Chinarev A, **Bovin N**, Klimov A (2010). Shift in oligosaccharide specificities of hemagglutinin and neuraminidase of influenza B viruses resistant to neuraminidase inhibitors. *Glycoconj J* 27 (3), 321–327, [10.1007/s10719-010-9280-7](https://doi.org/10.1007/s10719-010-9280-7)
228. Mendelson M, Tekoah Y, Zilka A, Gershoni-Yahalom O, Gazit R, Achdout H, **Bovin NV**, Meninger T, Mandelboim M, Mandelboim O, David A, Porgador A (2010). NKp46 O-glycan sequences that are involved in the interaction with hemagglutinin type 1 of influenza virus. *J Virol* 84 (8), 3789–3797, [10.1128/JVI.01815-09](https://doi.org/10.1128/JVI.01815-09)
229. Kurmyshkina O, Rapoport E, Moiseeva E, Korchagina E, Ovchinnikova T, Pazynina G, Belyanchikov I, **Bovin N** (2010). Glycoprobes as a tool for the study of lectins expressed on tumor cells. *Acta Histochem* 112 (2), 118–126, [10.1016/j.acthis.2009.01.004](https://doi.org/10.1016/j.acthis.2009.01.004)
230. Rapoport EM, Pochechueva TV, Kurmyshkina OV, Pazynina GV, Severov VV, Gordeeva EA, Belyanchikov

- IM, Andre S, Gabius HJ, **Bovin NV** (2010). Solid-Phase assays for study of carbohydrate specificity of galectins. *Biochemistry (Mosc)* 75 (3), 310–319, [10.1134/S0006297910030077](https://doi.org/10.1134/S0006297910030077)
231. Ilyushina NA, Kim JK, Negovetich NJ, Choi YK, Lang V, **Bovin NV**, Forrest HL, Song MS, Pascua PNQ, Kim CJ, Webster RG, Webby RJ (2010). Extensive mammalian ancestry of pandemic (H1N1) 2009 virus. *Emerg Infect Dis* 16 (2), 314–317, [10.3201/eid1602.091141](https://doi.org/10.3201/eid1602.091141)
232. Chinarev AA, Galanina OE, **Bovin NV** (2010). Biotinylated multivalent glycoconjugates for surface coating. *Methods Mol Biol* 600, 67–78, [10.1007/978-1-60761-454-85](https://doi.org/10.1007/978-1-60761-454-85)
233. Duong BH, Tian H, Ota T, Completo G, Han S, Vela JL, Ota M, Kubitz M, **Bovin N**, Paulson J, Nemazee D (2010). Decoration of T-independent antigen with ligands for CD22 and Siglec-G can suppress immunity and induce B cell tolerance in vivo. *J Exp Med* 207 (1), 173–187, [10.1084/jem.20091873](https://doi.org/10.1084/jem.20091873)
234. Kuznetsova N, **Bovin N**, Sevrin C, Lespigneux D, Grandfils C, Vodovozova E (2010). Hemocompatibility of liposomes loaded with diglyceride esters of methotrexate and melphalan. *Eur Cell Mater* 20 (3), 152.
235. Alikhani A, Korchagina EY, Chinarev AA, **Bovin NV**, Federspiel WJ (2009). High molecular weight blood group A trisaccharide-polyacrylamide glycoconjugates as synthetic blood group A antigens for anti-A antibody removal devices. *J Biomed Mater Res B Appl Biomater* 91 (2), 845–854, [10.1002/jbm.b.31466](https://doi.org/10.1002/jbm.b.31466)
236. Geurtsen J, Chedammi S, Mesters J, Cot M, Driessen NN, Sambou T, Kakutani R, Ummels R, Maaskant J, Takata H, Baba O, Terashima T, **Bovin N**, Vandenbroucke-Grauls CMJE, Nigou J, Puzo G, Lemassu A, Daffé M, Appelmeik BJ (2009). Identification of mycobacterial α -glucan as a novel ligand for DC-SIGN: Involvement of mycobacterial capsular polysaccharides in host immune modulation. *J Immunol* 183 (8), 5221–5231, [10.4049/jimmunol.0900768](https://doi.org/10.4049/jimmunol.0900768)
237. **Бовин НВ**, Марквичева ЕА, Селина ОЕ (2009). Сорбент для удаления антител из цельной крови и способ его получения. Патент RU 2360707. , .
238. Novozhilova NM, **Bovin NV** (2009). D-Arabinose Methabolism: Characterization of Bifunctional Arabinokinase/Pyrophosphorylase of Leishmania major. *Acta Naturae* 1 (3), 81–3.
239. Pazyrina G, Sablina M, Mayzel M, Nasonov V, Tuzikov A, **Bovin N** (2009). Chemical synthesis of 6(GlcNAc)- and 6(Gal)-O- sulfated SiaLeX tetrasaccharides in spacer-armed form. *Glycobiology* 19 (10), 1078–1081, [10.1093/glycob/cwp093](https://doi.org/10.1093/glycob/cwp093)
240. André S, Specker D, **Bovin NV**, Lensch M, Kaltner H, Gabius HJ, Wittmann V (2009). Carbamate-linked lactose: Design of clusters and evidence for selectivity to block binding of human lectins to (neo)glycoproteins with increasing degree of branching and to tumor cells. *Bioconjug Chem* 20 (9), 1716–1728, [10.1021/bc900152w](https://doi.org/10.1021/bc900152w)
241. Huflejt ME, Vuskovic M, Vasiliu D, Xu H, Obukhova P, Shilova N, Tuzikov A, Galanina O, Arun B, Lu K, **Bovin N** (2009). Anti-carbohydrate antibodies of normal sera: Findings, surprises and challenges. *Mol Immunol* 46 (15), 3037–3049, [10.1016/j.molimm.2009.06.010](https://doi.org/10.1016/j.molimm.2009.06.010)
242. Hudson SA, **Bovin NV**, Schnaar RL, Crocker PR, Bochner BS (2009). Eosinophil-selective binding and proapoptotic effect in vitro of a synthetic siglec-8 ligand, polymeric 6'-sulfated sialyl lewis X. *J Pharmacol Exp Ther* 330 (2), 608–612, [10.1124/jpet.109.152439](https://doi.org/10.1124/jpet.109.152439)
243. Maenuma K, Yim M, Komatsu K, Hoshino M, Tachiki-Fujioka A, Takahashi K, Hiki Y, **Bovin N**, Irimura T (2009). A library of mutated Maackia amurensis hemagglutinin distinguishes putative glycoforms of immunoglobulin A1 from IgA nephropathy patients. *J Proteome Res* 8 (7), 3617–3624, [10.1021/pr800816w](https://doi.org/10.1021/pr800816w)
244. Kuznetsova NR, Gaenko GP, Haidukov SV, **Bovin NV**, Vodovozova EL (2009). The influence of carbohydrate ligands on the cytotoxicity of liposomes bearing a methotrexate-diglyceride conjugate in human acute leukemia cell cultures. *Russ. J. Bioorganic Chem.* 35 (4), 490–496, [10.1134/S1068162009040116](https://doi.org/10.1134/S1068162009040116)
245. Zakhour M, Ruvoën-Clouet N, Charpilienne A, Langpap B, Poncet D, Peters T, **Bovin N**, Le Pendu J (2009). The α Gal epitope of the histo-blood group antigen family is a ligand for bovine norovirus Newbury2 expected to prevent cross-species transmission. *PLoS Pathog* 5 (7), e1000504, [10.1371/journal.ppat.1000504](https://doi.org/10.1371/journal.ppat.1000504)
246. Shtyrya YA, Mochalova LV, **Bovin NV** (2009). Influenza virus neuraminidase: structure and function. *Acta Naturae* 1 (2), 26–32.
247. Korchagina EY, Ryzhov IM, Byrgazov KA, Popova IS, Pokrovsky SN, **Bovin NV** (2009). Block synthesis of blood group tetrasaccharides B (types 1, 3 and 4). *MENDELEEV COMMUN* 19 (3), 152–154, [10.1016/j.mencom.2009.05.013](https://doi.org/10.1016/j.mencom.2009.05.013)
248. Keleta L, Ibricevic A, **Bovin NV**, Brody SL, Brown EG (2009). Erratum: Experimental evolution of human

- influenza virus H3 hemagglutinin in the mouse lung identifies adaptive regions in HA1 and HA2 ((2008) 82:23 (11599-11608)). *J Virol* 83 (7), 3417, [10.1128/JVI.00177-09](https://doi.org/10.1128/JVI.00177-09)
249. Chugunov PA, Chinarev AA, Tuzikov AB, Formanovsky AA, Prokhorov VV, Gambaryan AS, **Bovin NV** (2009). Monosialoside with multimer-like anti-influenza potency. *MENDELEEV COMMUN* 19 (2), 62–63, [10.1016/j.mencom.2009.03.002](https://doi.org/10.1016/j.mencom.2009.03.002)
250. Mollicone R, Moore SEH, **Bovin N**, Garcia-Rosasco M, Candelier JJ, Martinez-Duncker I, Oriol R (2009). Activity, splice variants, conserved peptide motifs, and phylogeny of two New α 1,3-fucosyltransferase families (FUT10 and FUT11). *J Biol Chem* 284 (7), 4723–4738, [10.1074/jbc.M809312200](https://doi.org/10.1074/jbc.M809312200)
251. Shtyrya Y, Mochalova L, Voznova G, Rudneva I, Shilov A, Kaverin N, **Bovin N** (2009). Adjustment of receptor-binding and neuraminidase substrate specificities in avian-human reassortant influenza viruses. *Glycoconj J* 26 (1), 99–109, [10.1007/s10719-008-9169-x](https://doi.org/10.1007/s10719-008-9169-x)
252. **Bovin NV**, Tuzikov AB, Chinarev AA (2008). Oligoglycines: Materials with unlimited potential for nanotechnologies. *Nanotechnol Russ* 3 (5), 48–61.
253. Keleta L, Ibricevic A, **Bovin NV**, Brody SL, Brown EG (2008). Experimental evolution of human influenza virus H3 hemagglutinin in the mouse lung identifies adaptive regions in HA1 and HA2. *J Virol* 82 (23), 11599–11608, [10.1128/JVI.01393-08](https://doi.org/10.1128/JVI.01393-08)
254. **Bovin NV**, Huflejt ME (2008). Unlimited glycochip. *Trends Glycosci. Glycotechnol.* 20 (115), 245–258, [10.4052/tigg.20.245](https://doi.org/10.4052/tigg.20.245)
255. Pazynina GV, Severov VV, **Bovin NV** (2008). The synthesis of linear trilactosamine. *Russ. J. Bioorganic Chem.* 34 (5), 625–631, [10.1134/S1068162008050129](https://doi.org/10.1134/S1068162008050129)
256. Pazynina GV, Severov VV, Maisel ML, Belyanchikov IM, **Bovin NV** (2008). Synthesis of mono-, di- and tri-O-sulfated N-acetylglucosamines in a form suitable for glycochip printing. *MENDELEEV COMMUN* 18 (5), 238–240, [10.1016/j.mencom.2008.09.002](https://doi.org/10.1016/j.mencom.2008.09.002)
257. Parfinovich EV, Mochalova LV, Molotkovsky YG, **Bovin NV**, Vodovozova EL (2008). Identification of a new carbohydrate-binding site of influenza virus. *Russ. J. Bioorganic Chem.* 34 (5), 642–646, [10.1134/S1068162008050154](https://doi.org/10.1134/S1068162008050154)
258. Gambaryan AS, Tuzikov AB, Pazynina GV, Desheva JA, **Bovin NV**, Matrosovich MN, Klimov AI (2008). 6-sulfo sialyl Lewis X is the common receptor determinant recognized by H5, H6, H7 and H9 influenza viruses of terrestrial poultry. *Virology* 385 (1), 85–90, [10.1016/j.virol.2008.11.015](https://doi.org/10.1016/j.virol.2008.11.015)
259. Bateman AC, Busch MG, Karasin AI, **Bovin N**, Olsen CW (2008). Amino acid 226 in the hemagglutinin of H4N6 influenza virus determines binding affinity for α 2,6-linked sialic acid and infectivity levels in primary swine and human respiratory epithelial cells. *J Virol* 82 (16), 8204–8209, [10.1128/JVI.00718-08](https://doi.org/10.1128/JVI.00718-08)
260. Maenuma K, Yim M, Komatsu K, Hoshino M, Takahashi Y, **Bovin N**, Irimura T (2008). Use of a library of mutated Maackia amurensis hemagglutinin for profiling the cell lineage and differentiation. *Proteomics* 8 (16), 3274–3283, [10.1002/pmic.200800037](https://doi.org/10.1002/pmic.200800037)
261. Selina OE, Chinarev AA, Obukhova PS, Bartkowiak A, **Bovin NV**, Markvicheva EA (2008). Alginate-chitosan microspheres for the specific sorption of antibodies. *Russ. J. Bioorganic Chem.* 34 (4), 468–474, [10.1134/S1068162008040110](https://doi.org/10.1134/S1068162008040110)
262. Klopocki AG, Yago T, Mehta P, Yang J, Wu T, Leppänen A, **Bovin NV**, Cummings RD, Zhu C, McEver RP (2008). Replacing a lectin domain residue in L-selectin enhances binding to P-selectin glycoprotein ligand-1 but not to 6-sulfo-sialyl Lewis x. *J Biol Chem* 283 (17), 11493–11500, [10.1074/jbc.M709785200](https://doi.org/10.1074/jbc.M709785200)
263. Rapoport EM, André S, Kurmyshkina OV, Pochechueva TV, Severov VV, Pazynina GV, Gabius HJ, **Bovin NV** (2008). Galectin-loaded cells as a platform for the profiling of lectin specificity by fluorescent neoglycoconjugates: A case study on galectins-1 and -3 and the impact of assay setting. *Glycobiology* 18 (4), 315–324, [10.1093/glycob/cwn009](https://doi.org/10.1093/glycob/cwn009)
264. Rapoport EM, Kurmyshkina OV, **Bovin NV** (2008). Mammalian galectins: Structure, carbohydrate specificity, and functions. *Biochemistry (Mosc)* 73 (4), 393–405, [10.1134/S0006297908040032](https://doi.org/10.1134/S0006297908040032)
265. Ilyushina NA, Govorkova EA, Gray TE, **Bovin NV**, Webster RG (2008). Human-like receptor specificity does not affect the neuraminidase-inhibitor susceptibility of H5N1 influenza viruses. *PLoS Pathog* 4 (4), e1000043, [10.1371/journal.ppat.1000043](https://doi.org/10.1371/journal.ppat.1000043)
266. Gautam S, Korchagina EY, **Bovin NV**, Federspiel WJ (2008). Monoclonal anti-A antibody removal by synthetic A antigen immobilized on specific antibody filters. *Biotechnol Bioeng* 99 (4), 876–883,

[10.1002/bit.21621](https://doi.org/10.1002/bit.21621)

267. Oo-puthinan S, Maenuma K, Sakakura M, Denda-Nagai K, Tsujii M, Shimada I, Nakamura-Tsuruta S, Hirabayashi J, **Bovin NV**, Irimura T (2008). The amino acids involved in the distinct carbohydrate specificities between macrophage galactose-type C-type lectins 1 and 2 (CD301a and b) of mice. *BIOCHIM BIOPHYS ACTA* 1780 (2), 89–100, [10.1016/j.bbagen.2007.10.017](https://doi.org/10.1016/j.bbagen.2007.10.017)
268. Shilova NV, Galanina OE, Rubina AY, Butvilovskaya VI, Huflejt ME, Chambers J, Roucoux A, **Bovin NV** (2008). 2-Aminopyridine - A label for bridging of oligosaccharides HPLC profiling and glycoarray printing. *Glycoconj J* 25 (1), 11–14, [10.1007/s10719-007-9050-3](https://doi.org/10.1007/s10719-007-9050-3)
269. Obukhova P, Rieben R, **Bovin N** (2007). Normal human serum contains high levels of anti-Gal α 1-4GlcNAc antibodies. *Xenotransplantation* 14 (6), 627–635, [10.1111/j.1399-3089.2007.00436.x](https://doi.org/10.1111/j.1399-3089.2007.00436.x)
270. Townson K, Greenshields KN, Veitch J, Nicholl D, Eckhardt M, Galanina O, **Bovin N**, Samain E, Antoine T, Bundle D, Zhang P, Ling CC, Willison HJ (2007). Sulfatide binding properties of murine and human antiganglioside antibodies. *Glycobiology* 17 (11), 1156–1166, [10.1093/glycob/cwm095](https://doi.org/10.1093/glycob/cwm095)
271. Mochalova L, Kurova V, Shtyrya Y, Korchagina E, Gambaryan A, Belyanchikov I, **Bovin N** (2007). Oligosaccharide specificity of influenza H1N1 virus neuraminidases. *Arch Virol* 152 (11), 2047–2057, [10.1007/s00705-007-1024-z](https://doi.org/10.1007/s00705-007-1024-z)
272. Tateno H, Li H, Schur MJ, **Bovin N**, Crocker PR, Wakarchuk WW, Paulson JC (2007). Distinct endocytic mechanisms of CD22 (Siglec-2) and Siglec-F reflect roles in cell signaling and innate immunity. *Mol Cell Biol* 27 (16), 5699–5710, [10.1128/MCB.00383-07](https://doi.org/10.1128/MCB.00383-07)
273. Turcot-Dubois AL, Le Moullac-Vaidye B, Despiau S, Roubinet F, **Bovin N**, Le Pendu J, Blancher A (2007). Long-term evolution of the CAZY glycosyltransferase 6 (ABO) gene family from fishes to mammals - A birth-and-death evolution model. *Glycobiology* 17 (5), 516–528, [10.1093/glycob/cwm016](https://doi.org/10.1093/glycob/cwm016)
274. **Bovin NV**, Gambaryan AS (2007). Rational Design of an Anti-Adhesion Drug for Influenza. , 183–208, [10.1002/9780470179727.ch8](https://doi.org/10.1002/9780470179727.ch8)
275. Kovalenko EI, Abakushina E, Telford W, Kapoor V, Korchagina E, Khaidukov S, Molotkovskaya I, Sapozhnikov A, Vlaskin P, **Bovin N** (2007). Clustered carbohydrates as a target for natural killer cells: A model system. *Histochem Cell Biol* 127 (3), 313–326, [10.1007/s00418-006-0240-z](https://doi.org/10.1007/s00418-006-0240-z)
276. Severov VV, Belyanchikov IM, Pazynina GV, **Bovin NV** (2007). Synthesis of N-acetyllactosamine-containing oligosaccharides, galectin ligands. *Russ. J. Bioorganic Chem.* 33 (1), 122–138, [10.1134/S1068162007010141](https://doi.org/10.1134/S1068162007010141)
277. Byramova NE, Tuzikov AB, Tyrtyshev TV, **Bovin NV** (2007). 1,6-Anhydro-N-acetyl- β -D-glucosamine in oligosaccharide synthesis: II. The synthesis of the spacers of Leytetrasaccharide. *Russ. J. Bioorganic Chem.* 33 (1), 99–109, [10.1134/S1068162007010128](https://doi.org/10.1134/S1068162007010128)
278. Solovan JC, Oh HI, Alikhani A, Gautam S, Vlasova K, Korchagina EY, **Bovin NV**, Federspiel WJ (2006). Synthetic blood group antigens for anti-A removal device and their interaction with monoclonal anti-A IgM. *Transpl Immunol* 16 (34), 245–249, [10.1016/j.trim.2006.08.003](https://doi.org/10.1016/j.trim.2006.08.003)
279. Lou J, Yago T, Klopocki AG, Mehta P, Chen W, Zarnitsyna VI, **Bovin NV**, Zhu C, McEver RP (2006). Flow-enhanced adhesion regulated by a selectin interdomain hinge. *J Cell Biol* 174 (7), 1107–1117, [10.1083/jcb.200606056](https://doi.org/10.1083/jcb.200606056)
280. Collins BE, Blixt O, Han S, Duong B, Li H, Nathan JK, **Bovin N**, Paulson JC (2006). High-affinity ligand probes of CD22 overcome the threshold set by cis ligands to allow for binding, endocytosis, and killing of B cells. *J Immunol* 177 (5), 2994–3003, [10.4049/jimmunol.177.5.2994](https://doi.org/10.4049/jimmunol.177.5.2994)
281. Gorokhova IV, Chinarev AA, Tuzikov AB, Tsygankova SV, **Bovin NV** (2006). Spontaneous and promoted association of linear oligoglycines. *Russ. J. Bioorganic Chem.* 32 (5), 420–428, [10.1134/S1068162006050049](https://doi.org/10.1134/S1068162006050049)
282. Ilyushina NA, **Bovin NV**, Webster RG, Govorkova EA (2006). Combination chemotherapy, a potential strategy for reducing the emergence of drug-resistant influenza A variants. *Antiviral Res* 70 (3), 121–131, [10.1016/j.antiviral.2006.01.012](https://doi.org/10.1016/j.antiviral.2006.01.012)
283. Rapoport EM, Pazynina GV, Sablina MA, Crocker PR, **Bovin NV** (2006). Probing sialic acid binding Ig-like lectins (siglecs) with sulfated oligosaccharides. *Biochemistry (Mosc)* 71 (5), 496–504, [10.1134/S0006297906050051](https://doi.org/10.1134/S0006297906050051)
284. Siebert HC, Rosen J, Seyrek K, Kaltner H, André S, **Bovin NV**, Nyholm PG, Sinowatz F, Gabius HJ (2006). α 2,3/ α 2,6-Sialylation of N-glycans: non-synonymous signals with marked developmental regulation in bovine

- reproductive tracts. *Biochimie* 88 (5), 399–410, [10.1016/j.biochi.2005.09.006](https://doi.org/10.1016/j.biochi.2005.09.006)
285. Dyukova VI, Shilova NV, Galanina OE, Rubina AY, **Bovin NV** (2006). Design of carbohydrate multiarrays. *BIOCHIM BIOPHYS ACTA* 1760 (4), 603–609, [10.1016/j.bbagen.2005.12.005](https://doi.org/10.1016/j.bbagen.2005.12.005)
286. Rapoport EM, Mochalova LV, Gabius HJ, Romanova J, **Bovin NV** (2006). Search for additional influenza virus to cell interactions. *Glycoconj J* 23 (12), 115–125, [10.1007/s10719-006-5444-x](https://doi.org/10.1007/s10719-006-5444-x)
287. Gambaryan A, Tuzikov A, Pazynina G, **Bovin N**, Balish A, Klimov A (2006). Evolution of the receptor binding phenotype of influenza A (H5) viruses. *Virology* 344 (2), 432–438, [10.1016/j.virol.2005.08.035](https://doi.org/10.1016/j.virol.2005.08.035)
288. Vodovozova EL, Gordienko AV, Gaenko GP, Pazynina GV, **Bovin NV**, Molotkovsky JG (2005). Detection of the tumor cell lectins with the help of photoaffine labeling. *BIOL MEMBRANY* 22 (4), 308–321.
289. Dyukova VI, Dementieva EI, Zubtsov DA, Galanina OE, **Bovin NV**, Rubina AY (2005). Hydrogel glycan microarrays. *Anal Biochem* 347 (1), 94–105, [10.1016/j.ab.2005.09.009](https://doi.org/10.1016/j.ab.2005.09.009)
290. Gambaryan AS, Boravleva EY, Matrosovich TY, Matrosovich MN, Klenk HD, Moiseeva EV, Tuzikov AB, Chinarev AA, Pazynina GV, **Bovin NV** (2005). Polymer-bound 6' sialyl-N-acetyllactosamine protects mice infected by influenza virus. *Antiviral Res* 68 (3), 116–123, [10.1016/j.antiviral.2005.07.008](https://doi.org/10.1016/j.antiviral.2005.07.008)
291. Gambaryan AS, Karasin AI, Tuzikov AB, Chinarev AA, Pazynina GV, **Bovin NV**, Matrosovich MN, Olsen CW, Klimov AI (2005). Receptor-binding properties of swine influenza viruses isolated and propagated in MDCK cells. *Virus Res* 114 (12), 15–22, [10.1016/j.virusres.2005.05.005](https://doi.org/10.1016/j.virusres.2005.05.005)
292. Banz Y, Cung T, Korchagina EY, **Bovin NV**, Haerberli A, Rieben R (2005). Endothelial cell protection and complement inhibition in xenotransplantation: A novel in vitro model using whole blood. *Xenotransplantation* 12 (6), 434–443, [10.1111/j.1399-3089.2005.00239.x](https://doi.org/10.1111/j.1399-3089.2005.00239.x)
293. Banz Y, Hess OM, Robson SC, Mettler D, Meier P, Haerberli A, Csizmadia E, Korchagina EY, **Bovin NV**, Rieben R (2005). Locally targeted cytoprotection with dextran sulfate attenuates experimental porcine myocardial ischaemia/reperfusion injury. *Eur Heart J* 26 (21), 2334–2343, [10.1093/eurheartj/ehi421](https://doi.org/10.1093/eurheartj/ehi421)
294. Rapoport EM, Sapotko YB, Pazynina GV, Bojenko VK, **Bovin NV** (2005). Sialoside-binding macrophage lectins in phagocytosis of apoptotic bodies. *Biochemistry (Mosc)* 70 (3), 406–415.
295. Marionneau S, Airaud F, **Bovin NV**, Le Pendu J, Ruvoën-Clouet N (2005). Influence of the combined ABO, FUT2, and FUT3 polymorphism on susceptibility to Norwalk virus attachment. *J Infect Dis* 192 (6), 1071–1077, [10.1086/432546](https://doi.org/10.1086/432546)
296. Perret S, Sabin C, Dumon C, Pokorná M, Gautier C, Galanina O, Ilia S, **Bovin N**, Nicaise M, Desmadril M, Gilboa-Garber N, Wimmerová M, Mitchell EP, Imberty A (2005). Structural basis for the interaction between human milk oligosaccharides and the bacterial lectin PA-IIL of *Pseudomonas aeruginosa*. *Biochem J* 389 (2), 325–332, [10.1042/BJ20050079](https://doi.org/10.1042/BJ20050079)
297. Mochalova LV, Korchagina EY, Kurova VS, Shtyria JA, Gambaryan AS, **Bovin NV** (2005). Fluorescent assay for studying the substrate specificity of neuraminidase. *Anal Biochem* 341 (1), 190–193, [10.1016/j.ab.2005.02.019](https://doi.org/10.1016/j.ab.2005.02.019)
298. Moiseeva EV, Rapoport EM, **Bovin NV**, Miroshnikov AI, Chaadaeva AV, Krasilshchikova MS, Bojenko VK, Bijleveld C, Van Dijk JE, Den Otter W (2005). Galectins as markers of aggressiveness of mouse mammary carcinoma: Towards a lectin target therapy of human breast cancer. *Breast Cancer Res Treat* 91 (3), 227–241, [10.1007/s10549-005-0289-8](https://doi.org/10.1007/s10549-005-0289-8)
299. Gambaryan A, Yamnikova S, Lvov D, Tuzikov A, Chinarev A, Pazynina G, Webster R, Matrosovich M, **Bovin N** (2005). Receptor specificity of influenza viruses from birds and mammals: New data on involvement of the inner fragments of the carbohydrate chain. *Virology* 334 (2), 276–283, [10.1016/j.virol.2005.02.003](https://doi.org/10.1016/j.virol.2005.02.003)
300. Ushakova NA, Preobrazhenskaya ME, Bird MI, Priest R, Semenov AV, Mazurov AV, Nifantiev NE, Pochechueva TV, Galanina OE, **Bovin NV** (2005). Monomeric and multimeric blockers of Selectins: Comparison of in vitro and in vivo activity. *Biochemistry (Mosc)* 70 (4), 432–439, [10.1007/s10541-005-0133-0](https://doi.org/10.1007/s10541-005-0133-0)
301. Rapoport EM, Sapotko YB, Pazynina GV, Bojenko VK, **Bovin NV** (2005). Sialoside-binding macrophage lectins in phagocytosis of apoptotic bodies. *Biochemistry (Mosc)* 70 (3), 330–338, [10.1007/s10541-005-0119-y](https://doi.org/10.1007/s10541-005-0119-y)
302. Korchagina EY, Pochechueva TV, Obukhova PS, Formanovsky AA, Imberty A, Rieben R, **Bovin NV** (2005). Design of the blood group AB glycotope. *Glycoconj J* 22 (3), 127–133, [10.1007/s10719-005-0508-x](https://doi.org/10.1007/s10719-005-0508-x)
303. Bochner BS, Alvarez RA, Mehta P, **Bovin NV**, Blixt O, White JR, Schnaar RL (2005). Glycan array screening reveals a candidate ligand for Siglec-8. *J Biol Chem* 280 (6), 4307–4312, [10.1074/jbc.M412378200](https://doi.org/10.1074/jbc.M412378200)

304. Shilova NV, Galanina OE, Pochechueva TV, Chinarev AA, Kadykov VA, Tuzikov AB, **Bovin NV** (2005). High molecular weight neoglycoconjugates for solid phase assays. *Glycoconj J* 22 (12), 43–51, [10.1007/s10719-005-0280-y](https://doi.org/10.1007/s10719-005-0280-y)
305. Duk M, Kusnierz-Alejska G, Korchagina EY, **Bovin NV**, Bochenek S, Lisowska E (2005). Anti- α -galactosyl antibodies recognizing epitopes terminating with α 1,4-linked galactose: Human natural and mouse monoclonal anti-NOR and anti-P1 antibodies. *Glycobiology* 15 (2), 109–118, [10.1093/oxfordjournals.glycob.a034964](https://doi.org/10.1093/oxfordjournals.glycob.a034964)
306. Blixt O, Head S, Mondala T, Scanlan C, Huflejt ME, Alvarez R, Bryan MC, Fazio F, Calarese D, Stevens J, Razi N, Stevens DJ, Skehel JJ, Van Die I, Burton DR, Wilson IA, Cummings R, **Bovin N**, Wong CH, Paulson JC (2004). Printed covalent glycan array for ligand profiling of diverse glycan binding proteins. *Proc Natl Acad Sci U S A* 101 (49), 17033–17038, [10.1073/pnas.0407902101](https://doi.org/10.1073/pnas.0407902101)
307. Шиян СВ, Зуева ВС, Насонов ВВ, Жигис ЛС, Цой НС, **Бовин НВ** (2004). Сиалирование N-углеводных цепей гликопротеинов с помощью иммобилизованной транс-сиалидазы *Trypanosoma cruzi*. 30 (4), 1–9.
308. Ilyushina N, Rudneva I, Gambaryan A, **Bovin N**, Kaverin N (2004). Monoclonal antibodies differentially affect the interaction between the hemagglutinin of H9 influenza virus escape mutants and sialic receptors. *Virology* 329 (1), 33–39, [10.1016/j.virol.2004.08.002](https://doi.org/10.1016/j.virol.2004.08.002)
309. Katinger D, Mochalova L, Chinarev A, **Bovin N**, Romanova J (2004). Specificity of neuraminidase activity from influenza viruses isolated in different hosts tested with novel substrates. *Arch Virol* 149 (11), 2131–2140, [10.1007/s00705-004-0364-1](https://doi.org/10.1007/s00705-004-0364-1)
310. Nikonova EY, Tertov VV, Sato C, Kitajima K, **Bovin NV** (2004). Specificity of human trans-sialidase as probed with gangliosides. *Bioorg Med Chem Lett* 14 (20), 5161–5164, [10.1016/j.bmcl.2004.07.058](https://doi.org/10.1016/j.bmcl.2004.07.058)
311. Gambaryan AS, Tuzikov AB, Pazynina GV, Webster RG, Matrosovich MN, **Bovin NV** (2004). H5N1 chicken influenza viruses display a high binding affinity for Neu5Ac α 2-3Gal β 1-4(6-HSO₃)GlcNAc-containing receptors. *Virology* 326 (2), 310–316, [10.1016/j.virol.2004.06.002](https://doi.org/10.1016/j.virol.2004.06.002)
312. Bloushtain N, Qimron U, Bar-Ilan A, Hershkovitz O, Gazit R, Fima E, Korc M, Vlodaysky I, **Bovin NV**, Porgador A (2004). Membrane-associated heparan sulfate proteoglycans are involved in the recognition of cellular targets by NKp30 and NKp46. *J Immunol* 173 (4), 2392–2401, [10.4049/jimmunol.173.4.2392](https://doi.org/10.4049/jimmunol.173.4.2392)
313. **Bovin NV**, Tuzikov AB, Chinarev AA, Gambaryan AS (2004). Multimeric glycotherapeutics: New paradigm. *Glycoconj J* 21 (89), 471–478, [10.1007/s10719-004-5537-3](https://doi.org/10.1007/s10719-004-5537-3)
314. Shiyan SD, Zueva VS, Nasonov VV, Zhigis LS, Coi NC, **Bovin NV** (2004). Sialylation of N-carbohydrate chains of glycoproteins with trans-sialidase from *Trypanosoma cruzi*. *Russ. J. Bioorganic Chem.* 30 (4), 358–366, [10.1023/B:RUBI.0000037263.04462.97](https://doi.org/10.1023/B:RUBI.0000037263.04462.97)
315. Vray B, Camby I, Vercruyse V, Mijatovic T, **Bovin NV**, Ricciardi-Castagnoli P, Kaltner H, Salmon I, Gabius HJ, Kiss R (2004). Up-regulation of galectin-3 and its ligands by *Trypanosoma cruzi* infection with modulation of adhesion and migration of murine dendritic cells. *Glycobiology* 14 (7), 647–657, [10.1093/glycob/cwh068](https://doi.org/10.1093/glycob/cwh068)
316. Kovalenko EI, Khirova EV, Molotkovskaya IM, Ovchinnikova TV, Sablina MA, Sapozhnikov AM, Khaidukov SV, **Bovin NV** (2004). The modification of cell surface with lipophilic glycoconjugates and the interaction of modified cells with natural killer cells. *Russ. J. Bioorganic Chem.* 30 (3), 250–260, [10.1023/B:RUBI.0000030132.51210.16](https://doi.org/10.1023/B:RUBI.0000030132.51210.16)
317. Laumonier T, Walpen AJ, Matozan KM, Korchagina EY, **Bovin NV**, Haerberli A, Mohacsi PJ, Rieben R (2004). Multimeric tyrosine sulfate acts as an endothelial cell protectant and prevents complement activation in xenotransplantation models. *Xenotransplantation* 11 (3), 262–268, [10.1111/j.1399-3089.2004.00125.x](https://doi.org/10.1111/j.1399-3089.2004.00125.x)
318. Collins BE, Blixt O, DeSieno AR, **Bovin N**, Marth JD, Paulson JC (2004). Masking of CD22 by cis ligands does not prevent redistribution of CD22 to sites of cell contact. *Proc Natl Acad Sci U S A* 101 (16), 6104–6109, [10.1073/pnas.0400851101](https://doi.org/10.1073/pnas.0400851101)
319. Pochechueva TV, Galanina OE, Ushakova NA, Preobrazhenskaya ME, Sablina MA, Nifantiev NE, Tsvetkov YV, Vozney YV, Imberty A, **Bovin NV** (2004). Uncharged P-selectin blockers. *Glycoconj J* 20 (2), 91–97, [10.1023/B:GLYC.0000018583.63140.91](https://doi.org/10.1023/B:GLYC.0000018583.63140.91)
320. Vodovozova EL, Nazarova AI, Feofanov AV, Kholodenko RV, Pazynina GV, Gaenko GP, **Bovin NV**, Molotkovsky JG (2004). Interaction of Liposomes Bearing Carbohydrate Determinants with Melanoma Cells. *BIOL MEMBRANY* 21 (1), 53–64.
321. Smorodin EP, Kurtenkov OA, Sergeev BL, Pazynina GV, **Bovin NV** (2004). Specificity of human anti-

- carbohydrate IgG antibodies as probed with polyacrylamide-based glycoconjugates. *Glycoconj J* 20 (2), 83–89, [10.1023/B:GLYC.0000018582.83813.04](https://doi.org/10.1023/B:GLYC.0000018582.83813.04)
322. Ilyushina NA, Rudneva IA, Gambaryan AS, Tuzikov AB, **Bovin NV** (2004). Receptor specificity of H5 influenza virus escape mutants. *Virus Res* 100 (2), 237–241, [10.1016/j.virusres.2003.12.032](https://doi.org/10.1016/j.virusres.2003.12.032)
323. Laumonier T, Mohacsi PJ, Matozan KM, Banz Y, Haeberli A, Korchagina EY, **Bovin NV**, Vanhove B, Rieben R (2004). Endothelial Cell Protection by Dextran Sulfate: A Novel Strategy to Prevent Acute Vascular Rejection in Xenotransplantation. *Am J Transplant* 4 (2), 181–187, [10.1046/j.1600-6143.2003.00306.x](https://doi.org/10.1046/j.1600-6143.2003.00306.x)
324. Коваленко ЕИ, Хирова ЕВ, Молотковская ИМ, Овчинникова ТВ, Саблина МА, Сапожников АМ, Хайдуков СВ, **Бовин НВ** (2004). Модификация поверхности клеток с помощью липофильных гликоконъюгатов и взаимодействие модифицированных клеток с натуральными киллерами. 30 (3), 281–292.
325. Siebert HC, André S, Lu SY, Frank M, Kaltner H, Van Kuik JA, Korchagina EY, **Bovin N**, Tajkhorshid E, Kaptein R, Vliegenthart JFG, Von Der Lieth CW, Jiménez-Barbero J, Kopitz J, Gabius HJ (2003). Unique Conformer Selection of Human Growth-Regulatory Lectin Galectin-1 for Ganglioside GM1 versus Bacterial Toxins. *Biochemistry* 42 (50), 14762–14773, [10.1021/bi035477c](https://doi.org/10.1021/bi035477c)
326. Marinina VP, Gambaryan AS, **Bovin NV**, Tuzikov AB, Shilov AA, Sinitsyn BV, Matrosovich MN (2003). The effect of losing glycosylation sites near the receptor-binding region on the receptor phenotype of the human influenza virus H1N1. *Mol Biol (Mosk)* 37 (3), 550–555.
327. Gambaryan AS, Tuzikov AB, **Bovin NV**, Yamnikova SS, Lvov DK, Webster RG, Matrosovich MN (2003). Differences between influenza virus receptors on target cells of duck and chicken and receptor specificity of the 1997 H5N1 chicken and human influenza viruses from Hong Kong. *Avian Dis* 47 (3), 1154–1160, [10.1637/0005-2086-47.s3.1154](https://doi.org/10.1637/0005-2086-47.s3.1154)
328. Yamnikova SS, Gambaryan AS, Tuzikov AB, **Bovin NV**, Matrosovich MN, Fedyakina IT, Grinev AA, Blinov VM, Lvov DK, Suarez DL, Swayne DE (2003). Differences between HA receptor-binding sites of avian influenza viruses isolated from Laridae and Anatidae. *Avian Dis* 47 (3), 1164–1168, [10.1637/0005-2086-47.s3.1164](https://doi.org/10.1637/0005-2086-47.s3.1164)
329. Laumonier T, Walpen AJ, Maurus CF, Mohacsi PJ, Matozan KM, Korchagina EY, **Bovin NV**, Vanhove B, Seebach JD, Rieben R (2003). Dextran sulfate acts as an endothelial cell protectant and inhibits human complement and natural killer cell-mediated cytotoxicity against porcine cells. *Transplant Bull* 76 (5), 838–843, [10.1097/01.TP.0000078898.28399.0A](https://doi.org/10.1097/01.TP.0000078898.28399.0A)
330. Mochalova L, Gambaryan A, Romanova J, Tuzikov A, Chinarev A, Katinger D, Katinger H, Egorov A, **Bovin N** (2003). Receptor-binding properties of modern human influenza viruses primarily isolated in Vero and MDCK cells and chicken embryonated eggs. *Virology* 313 (2), 473–480, [10.1016/S0042-6822\(03\)00377-5](https://doi.org/10.1016/S0042-6822(03)00377-5)
331. Brulin-Fardoux P, Godfrain C, Maurage CA, De Reuck J, Hauw JJ, Kaltner H, **Bovin NV**, Gabius HJ, Ruchoux MM, Kiss R, Camby I (2003). Glycohistochemical characterization of vascular muscle cell destruction in CADASIL subjects by lectins, neoglycoconjugates and galectin-specific antibodies. *Neuropathol Appl Neurobiol* 29 (4), 400–410, [10.1046/j.1365-2990.2003.00478.x](https://doi.org/10.1046/j.1365-2990.2003.00478.x)
332. Shilova NV, **Bovin NV** (2003). Fluorescent labels for analysis of mono- and oligosaccharides. *Bioorg Khim* 29 (4), 339–355.
333. Alpeeva IS, Soukharev VS, Alexandrova L, Shilova NV, **Bovin NV**, Csöregi E, Ryabov AD, Sakharov IY (2003). Cyclometalated ruthenium(II) complexes as efficient redox mediators in peroxidase catalysis. *J Biol Inorg Chem* 8 (6), 683–688, [10.1007/s00775-003-0467-2](https://doi.org/10.1007/s00775-003-0467-2)
334. Nicoll G, Avril T, Lock K, Furukawa K, **Bovin N**, Crocker PR (2003). Ganglioside GD3 expression on target cells can modulate NK cell cytotoxicity via siglec-7-dependent and -independent mechanisms. *Eur J Immunol* 33 (6), 1642–1648, [10.1002/eji.200323693](https://doi.org/10.1002/eji.200323693)
335. Rapoport E, Khaidukov S, Baidina O, Bojenko V, Moiseeva E, Pasygina G, Karsten U, Nifantiev N, LePendu J, **Bovin N** (2003). Involvement of the Gal β 1-3GalNAc β structure in the recognition of apoptotic bodies by THP-1 cells. *Eur J Cell Biol* 82 (6), 295–302, [10.1078/0171-9335-00314](https://doi.org/10.1078/0171-9335-00314)
336. Pochechueva TV, Ushakova NA, Preobrazhenskaya ME, Nifantiev NE, Tsvetkov YE, Sablina MA, Tuzikov AB, Bird MI, Rieben R, **Bovin NV** (2003). P-selectin blocking potency of multimeric tyrosine sulfates in vitro and in vivo. *Bioorg Med Chem Lett* 13 (10), 1709–1712, [10.1016/S0960-894X\(03\)00234-8](https://doi.org/10.1016/S0960-894X(03)00234-8)
337. Marinina VP, Gambaryan AS, **Bovin NV**, Tuzikov AB, Shilov AA, Sinitsyn BV, Matrosovich MN (2003). The

- Effect of Losing Glycosylation Sites Near the Receptor-Binding Region on the Receptor Phenotype of the Human Influenza Virus H1N1. *Mol Biol* 37 (3), 468–472, [10.1023/A:1024207931650](https://doi.org/10.1023/A:1024207931650)
338. Duk M, Westerlind U, Norberg T, Pazynina G, **Bovin NN**, Lisowska E (2003). Specificity of human anti-NOR antibodies, a distinct species of "natural" anti- α -galactosyl antibodies. *Glycobiology* 13 (4), 279–284, [10.1093/glycob/cwg036](https://doi.org/10.1093/glycob/cwg036)
339. Tuzikov AB, Chinarev AA, Gambaryan AS, Oleinikov VA, Klinov DV, Matsko NB, Kadykov VA, Ermishov MA, Demin IV, Demin VV, Rye PD, **Bovin NV** (2003). Polyglycine II nanosheets: Supramolecular antivirals? *Chembiochem* 4 (23), 147–154, [10.1002/cbic.200390025](https://doi.org/10.1002/cbic.200390025)
340. Romanova J, Katinger D, Ferko B, Voglauer R, Mochalova L, **Bovin N**, Lim W, Katinger H, Egorov A (2003). Distinct host range of influenza H3N2 virus isolates in Vero and MDCK cells is determined by cell specific glycosylation pattern. *Virology* 307 (1), 90–97, [10.1016/S0042-6822\(02\)00064-8](https://doi.org/10.1016/S0042-6822(02)00064-8)
341. Shevchenko VP, Nagaev IY, Myasoedov NF, **Bovin NV** (2003). Tritium labeling of derivatives of amino sugars and sialic acids. *RADIOCHEMISTRY+* 45 (2), 172–175, [10.1023/A:1023841527761](https://doi.org/10.1023/A:1023841527761)
342. Rapoport E, Mikhalyov I, Zhang J, Crocker P, **Bovin N** (2003). Ganglioside binding pattern of CD33-related siglecs. *Bioorg Med Chem Lett* 13 (4), 675–678, [10.1016/S0960-894X\(02\)00998-8](https://doi.org/10.1016/S0960-894X(02)00998-8)
343. Galanina OE, Mecklenburg M, Nifantiev NE, Pazynina GV, **Bovin NV** (2003). GlycoChip: Multiarray for the study of carbohydrate-binding proteins. *Lab Chip* 3 (4), 260–265, [10.1039/b305963d](https://doi.org/10.1039/b305963d)
344. Tsvetkov DE, Cheshev PE, Tuzikov AB, Chinarev AA, Pazynina GV, Sablina MA, Gambaryan AS, **Bovin NV**, Rieben R, Shashkov AS, Nifantev NE (2002). Neoglycoconjugates based on dendrimer poly(aminoamides). *Russ. J. Bioorganic Chem.* 28 (6), 470–486, [10.1023/A:1021293532046](https://doi.org/10.1023/A:1021293532046)
345. Pazynina G, Tuzikov A, Chinarev A, Obukhova P, **Bovin N** (2002). Simple stereoselective synthesis of α 2-6 sialooligosaccharides. *Tetrahedron Lett* 43 (45), 8011–8013, [10.1016/S0040-4039\(02\)01983-4](https://doi.org/10.1016/S0040-4039(02)01983-4)
346. Collins BE, Blixt O, **Bovin NV**, Danzer CP, Chui D, Marth JD, Nitschke L, Paulson JC (2002). Constitutively unmasked CD22 on B cells of ST6Gal I knockout mice: Novel sialoside probe for murine CD22. *Glycobiology* 12 (9), 563–571, [10.1093/glycob/cwf067](https://doi.org/10.1093/glycob/cwf067)
347. Kayser K, Zink S, André S, Schüring MP, Hecker E, Klar E, **Bovin NV**, Kaltner H, Gabius HJ (2002). Primary colorectal carcinomas and their intrapulmonary metastases: Clinical, glyco-, immuno- and lectin histochemical, nuclear and syntactic structure analysis with emphasis on correlation with period of occurrence of metastases and survival. *APMIS* 110 (6), 435–446, [10.1034/j.1600-0463.2002.100601.x](https://doi.org/10.1034/j.1600-0463.2002.100601.x)
348. Tertov VV, Nikonova EY, Nifantev NE, **Bovin NV**, Orekhov AN (2002). Human plasma trans-sialidase donor and acceptor specificity. *Biochemistry (Mosc)* 67 (8), 908–913, [10.1023/A:1019918704920](https://doi.org/10.1023/A:1019918704920)
349. Gambaryan AS, Tuzikov AB, Chinarev AA, Juneja LR, **Bovin NV**, Matrosovich MN (2002). Polymeric inhibitor of influenza virus attachment protects mice from experimental influenza infection. *Antiviral Res* 55 (1), 201–205, [10.1016/S0166-3542\(02\)00020-7](https://doi.org/10.1016/S0166-3542(02)00020-7)
350. Pochechueva TV, Galanina OE, Bird MI, Nifantiev NE, **Bovin NV** (2002). Assembly of P-selectin ligands on a polymeric template. *Cell Chem Biol* 9 (6), 757–762, [10.1016/S1074-5521\(02\)00157-6](https://doi.org/10.1016/S1074-5521(02)00157-6)
351. Plzák J, Holíková Z, Dvořánková B, Smetana K, Betka J, Hercogová J, Saeland S, **Bovin NV**, Gabius HJ (2002). Analysis of binding of mannosides in relation to Langerin (CD207) in Langerhans cells of normal and transformed epithelia. *Histochem J* 34 (5), 247–253, [10.1023/A:1021793530802](https://doi.org/10.1023/A:1021793530802)
352. Pazynina GV, Severov VV, **Bovin NV** (2002). Synthesis of N-acetyllactosamine-terminated oligosaccharides - Fragments of glycoprotein O-chains. *MENDELEEV COMMUN* 12 (5), 183–184, [10.1070/MC2002v012n05ABEH001653](https://doi.org/10.1070/MC2002v012n05ABEH001653)
353. Ovchinnikova TV, Shipova EV, Sablina MA, Pazynina GV, Popova IS, Tuzikov AB, **Bovin NV** (2002). Synthesis of monosulfated saccharides in the spacers form. *MENDELEEV COMMUN* 12 (6), 213–215, [10.1070/MC2002v012n06ABEH001652](https://doi.org/10.1070/MC2002v012n06ABEH001652)
354. Corzana F, Bettler E, Du Penhoat CH, Tyrtys TV, **Bovin NV**, Imberty A (2002). Solution structure of two xenoantigens: α Gal-LacNAc and α Gal-Lewis X. *Glycobiology* 12 (4), 241–250, [10.1093/glycob/12.4.241](https://doi.org/10.1093/glycob/12.4.241)
355. **Bovin NV** (2002). Neoglycoconjugates: Trade and art. *Biochem Soc Symp* 69 (69), 143–160, [10.1042/bss0690143](https://doi.org/10.1042/bss0690143)
356. Shipova EV, Byramova NE, **Bovin NV** (2001). N-acylation of 1,3,4,6-tetra-O-acetyl-2-amino-2-deoxy- α -D-glucopyranose. *Bioorg Khim* 25 (8), 636–637.
357. Zemlyakov AE, Tsikalov VV, Kuryanov VO, Chirva VY, **Bovin NV** (2001). Synthesis of N-acetylmuramyl-L-

- alanyl-D-isoglutamine aryl β -glycosides. *Bioorg Khim* 27 (6), 442–443.
358. Dikussar MA, Kubrakova IV, Chinarev AA, **Bovin NV** (2001). Polymerization of 4-Nitrophenyl Acrylate under Microwave Heating Conditions. *Russ. J. Bioorganic Chem.* 27 (6), 408–412, [10.1023/A:1012949005183](https://doi.org/10.1023/A:1012949005183)
359. Zemlyakov AE, Tsikalov VV, Kuryanov VO, Chirva VY, **Bovin NV** (2001). Synthesis of N-Acetylmuramyl-L-Alanyl-D-Isoglutamine Aryl β -Glycosides. *Russ. J. Bioorganic Chem.* 27 (6), 390–394, [10.1023/A:1012940803366](https://doi.org/10.1023/A:1012940803366)
360. Tertov VV, Kaplun VV, Sobenin IA, Boytsova EY, **Bovin NV**, Orekhov AN (2001). Human plasma trans-sialidase causes atherogenic modification of low density lipoprotein. *Atherosclerosis* 159 (1), 103–115, [10.1016/S0021-9150\(01\)00498-1](https://doi.org/10.1016/S0021-9150(01)00498-1)
361. Galanina O, Feofanov A, Tuzikov AB, Rapoport E, Crocker PR, Grichine A, Egret-Charlier M, Vigny P, Le Pendu J, **Bovin NV** (2001). Fluorescent carbohydrate probes for cell lectins. *Spectrochim Acta A* 57 (11), 2285–2296, [10.1016/S1386-1425\(01\)00478-4](https://doi.org/10.1016/S1386-1425(01)00478-4)
362. Gerber B, Tinguely C, **Bovin NV**, Rieben R, Nydegger UE (2001). Differences between synthetic oligosaccharide immunoabsorbents in depletion capacity for xenoreactive anti-Gal α 1-3Gal antibodies from human serum. *Xenotransplantation* 8 (2), 106–114, [10.1034/j.1399-3089.2001.00064.x](https://doi.org/10.1034/j.1399-3089.2001.00064.x)
363. Roos A, Essers M, Van Gijlswijk-Janssen D, **Bovin NV**, Daha MR (2001). Both IgG and IgM anti-pig antibodies induce complement activation and cytotoxicity. *Xenotransplantation* 8 (1), 3–14, [10.1046/j.0908-665X.2000.00087.x](https://doi.org/10.1046/j.0908-665X.2000.00087.x)
364. Lekakh IV, **Bovin NV**, Bezyaeva GP, Poverenny AM (2001). Natural hidden autoantibodies react with negatively charged carbohydrates and xenoantigen Bdi. *Biochemistry (Mosc)* 66 (2), 163–167, [10.1023/A:1002887430209](https://doi.org/10.1023/A:1002887430209)
365. Timoshenko AV, Vakhrushev SY, **Bovin NV**, Gabius HJ (2001). Inhibitory effects of carrier-immobilized synthetic histo-blood group A-, B-, H-, and SiaLe-oligosaccharides on H₂O₂ generation by human polymorphonuclear leukocytes. *Carbohydr Polym* 44 (4), 351–355, [10.1016/S0144-8617\(00\)00251-4](https://doi.org/10.1016/S0144-8617(00)00251-4)
366. Dikussar MA, Kubrakova IV, Chinarev AA, **Bovin NV** (2001). Polymerization of 4-nitrophenyl acrylate under microwave heating conditions. *Bioorg Khim* 27 (6), 461.
367. Ushakova NA, Preobrazhenskaya ME, Nifantev NE, Voznyi YV, Pochechueva TV, **Bovin NV** (2001). Effect of mannose derivatives on rat and mouse selectin-dependent inflammation. *Biomed Khim* 47 (5), 496–497.
368. Camby I, Decaestecker C, Gordower L, Dedecker R, Kacem Y, Lemmers A, Siebert HC, **Bovin NV**, Wesseling P, Danguy A, Salmon I, Gabius HJ, Kiss R (2001). Distinct differences in binding capacity to saccharide epitopes in supratentorial pilocytic astrocytomas, astrocytomas, anaplastic astrocytomas, and glioblastomas. *J Neuropathol Exp Neurol* 60 (1), 75–84, [10.1093/jnen/60.1.75](https://doi.org/10.1093/jnen/60.1.75)
369. Рапопорт ЕМ, Некрасов МВ, Хайдуков СВ, Свирищевская ЕВ, Жигис ЛС, Козлов ЛВ, Баталова ТН, Зубов ВП, **Бовин НВ** (2000). Изучение клеточной локализации галактозосвязывающего лектина из сыворотки крови человека. 65 (11), 1558–1563.
370. Tyrtyshev TV, Byramova NE, **Bovin NV** (2000). 1,6-anhydro-N-acetyl- β -D-glucosamine in the oligosaccharide syntheses. I. Synthesis of 3-acetate and 3-benzoate of 1,6-anhydro-N-acetyl- β -D-glucosamine via the 4-O-trityl derivative. *Bioorg Khim* 26 (6), 464–465.
371. Shipova EV, **Bovin NV** (2000). Modified blood group a trisaccharide probes: Synthesis and interaction with antibodies. *Carbohydr Lett* 4 (2), 85–90.
372. Rapoport EM, Nekrasov MV, Khaidukov SV, Svirshchevskaya EV, Zhigis LS, Kozlov LV, Batalova TN, Zubov VP, **Bovin NV** (2000). Cellular Localization of the Galactose-Binding Lectin from Human Serum. *Biochemistry (Mosc)* 65 (11), 1316–1320.
373. Siebert HC, André S, Asensio JL, Cañada FJ, Dong X, Espinosa JF, Frank M, Gilleron M, Kaltner H, Kozár T, **Bovin NV**, Von Der Lieth CW, Vliegenthart JFG, Jiménez-Barbero J, Gabius HJ (2000). A new combined computational and NMR-spectroscopical strategy for the identification of additional conformational constraints of the bound ligand in an aprotic solvent. *Angew Chem Int Ed Engl* 39 (19), 181–195.
374. Siebert HC, André S, Asensio JL, Cañada FJ, Dong X, Espinosa JF, Frank M, Gilleron M, Kaltner H, Kozár T, **Bovin NV**, von der Lieth CW, Vliegenthart JFG, Jiménez-Barbero J, Gabius HJ (2000). A new combined computational and NMR-spectroscopical strategy for the identification of additional conformational constraints of the bound ligand in an aprotic solvent. *ChemBiochem* 1 (3), 181–195, [10.1002/1439-7633\(20001002\)1:3<181::AID-CBIC181>3.0.CO;2-9](https://doi.org/10.1002/1439-7633(20001002)1:3<181::AID-CBIC181>3.0.CO;2-9)

375. Yamazaki N, Kojima S, **Bovin NV**, André S, Gabius S, Gabius HJ (2000). Endogenous lectins as targets for drug delivery. *Adv Drug Deliv Rev* 43 (23), 225–244, [10.1016/S0169-409X\(00\)00071-5](https://doi.org/10.1016/S0169-409X(00)00071-5)
376. Barreau N, Blancho G, Boulet C, Martineau A, Vusio P, Liaigre J, **Bovin N**, Bouhours D, Bouhours JF (2000). Natural anti-Gal antibodies constitute 0.2% of intravenous immunoglobulin and are equally retained on a synthetic disaccharide column or on an immobilized natural glycoprotein. *Transplant Proc* 32 (5), 882–883, [10.1016/S0041-1345\(00\)01023-X](https://doi.org/10.1016/S0041-1345(00)01023-X)
377. Mitnaul LJ, Matrosovich MN, Castrucci MR, Tuzikov AB, **Bovin NV**, Kobasa D, Kawaoka Y (2000). Balanced hemagglutinin and neuraminidase activities are critical for efficient replication of influenza A virus. *J Virol* 74 (13), 6015–6020, [10.1128/JVI.74.13.6015-6020.2000](https://doi.org/10.1128/JVI.74.13.6015-6020.2000)
378. Tyrtysch TV, Baïramova NE, **Bovin NV** (2000). 1,6-anhydro-N-acetyl-beta-D-glucosamines in synthesis of oligosaccharides. I. Synthesis of 3-acetate and 3-benzoate of 1,6-anhydro-N-acetyl-beta-D-glucosamine through a 4-O-trityl derivative. *Bioorg Khim* 26 (6), 460–465.
379. Vodovozova EL, Moiseeva EV, Grechko GK, Gayenko GP, NifantEv NE, **Bovin NV**, Molotkovsky JG (2000). Antitumour activity of cytotoxic liposomes equipped with selectin ligand SiaLe(X), in a mouse mammary adenocarcinoma model. *Eur J Cancer Clin Oncol* 36 (7), 942–949, [10.1016/S0959-8049\(00\)00029-0](https://doi.org/10.1016/S0959-8049(00)00029-0)
380. Khraltsova LS, Sablina MA, Melikhova TD, Joziassse DH, Kaltner H, Gabius HJ, **Bovin NV** (2000). An enzyme-linked lectin assay for α 1,3-galactosyltransferase. *Anal Biochem* 280 (2), 250–257, [10.1006/abio.2000.4504](https://doi.org/10.1006/abio.2000.4504)
381. Mikhalkhik EV, Shiyan SD, **Bovin NV** (2000). Carbohydrate-Carbohydrate Interaction: Zymosan and β -Glucan from *Saccharomyces cerevisiae* Bind Mannosylated Glycoconjugates. *Biochemistry (Mosc)* 65 (4), 494–501.
382. Gordeeva EA, Tuzikov AB, Galanina OE, Pochechueva TV, **Bovin NV** (2000). Microscale synthesis of glycoconjugate series and libraries. *Anal Biochem* 278 (2), 230–232, [10.1006/abio.1999.4374](https://doi.org/10.1006/abio.1999.4374)
383. Rieben R, **Bovin NV**, Korchagina EY, Oriol R, Nifantev NE, Tsvetkov DE, Daha MR, Mohacsi PJ, Joziassse DH (2000). Xenotransplantation: In vitro analysis of synthetic α -galactosyl inhibitors of human anti-Gal α 1 \rightarrow 3Gal IgM and IgG antibodies. *Glycobiology* 10 (2), 141–148.
384. Simeoni LA, Byramova NE, **Bovin NV** (2000). Synthesis of disaccharide Neu5Gca(2-6)GalNAca as a spacer glycoside. *Bioorg Khim* 26 (3), 214.
385. Tyrtysch TV, Byramova NE, **Bovin NV** (2000). 1,6-Anhydro-N-acetyl- β -D-glucosamine in the oligosaccharide syntheses: I. Synthesis of 3-acetate and 3-benzoate of 1,6-anhydro-N-acetyl- β -D-glucosamine via the 4-O-trityl derivative. *Russ. J. Bioorganic Chem.* 26 (6), 414–418, [10.1007/BF02758670](https://doi.org/10.1007/BF02758670)
386. Simeoni LA, Byramova NE, **Bovin NV** (2000). Synthesis of disaccharide Neu5Gca(2-6)GalNAca as a spacer glycoside. *Russ. J. Bioorganic Chem.* 26 (3), 183–191, [10.1007/BF02786344](https://doi.org/10.1007/BF02786344)
387. Tuzikov AB, Gambaryan AS, Juneja LR, **Bovin NV** (2000). Conversion of complex sialooligosaccharides into polymeric conjugates and their anti-influenza virus inhibitory potency. *J Carbohydr Chem* 19 (9), 1191–1200, [10.1080/07328300008544143](https://doi.org/10.1080/07328300008544143)
388. Pukhalskii AL, Shmarina GV, Kalashnikova EA, Shiyan SD, Kokarovtseva SN, Pukhalskaya DA, **Bovin NV** (2000). Effect of semisynthetic analog of α 1-acid glycoprotein on immunomodulatory and antiinflammatory activity of natural glycoprotein. *Bull Exp Biol Med* 129 (5), 480–483, [10.1007/BF02439809](https://doi.org/10.1007/BF02439809)
389. Bouhours D, Liaigre J, Nault J, **Bovin NV**, Bouhours JF (2000). A novel pentaglycosylceramide in ostrich liver, IV4- β -Gal-nLc4Cer, with terminal Gal(β 1-4)Gal, a xenoepitope recognized by human natural antibodies. *Glycobiology* 10 (9), 857–864, [10.1093/glycob/10.9.857](https://doi.org/10.1093/glycob/10.9.857)
390. Kost OA, **Bovin NV**, Chemodanova EE, Nasonov VV, Orth TA (2000). New feature of angiotensin-converting enzyme: Carbohydrate-recognizing domain. *J Mol Recognit* 13 (6), 360–369, [10.1002/1099-1352\(200011/12\)13:6<360::AID-JMR508>3.0.CO;2-K](https://doi.org/10.1002/1099-1352(200011/12)13:6<360::AID-JMR508>3.0.CO;2-K)
391. Wiederschain GY, Koul O, **Bovin NV**, Nifantev NE, McCluer R (2000). The study of the substrate specificity of rat-brain fucosyltransferase using synthetic acceptors. *Russ. J. Bioorganic Chem.* 26 (6), 403–406, [10.1007/BF02758668](https://doi.org/10.1007/BF02758668)
392. Wiederschain GY, Koul O, **Bovin NV**, Nifantev NE, McCluer R (2000). The study of the substrate specificity of rat brain fucosyltransferase using synthetic acceptors. *Bioorg Khim* 26 (6), 450–451.
393. Kurtenkov O, Miljukhina L, Smorodin J, Klaamas K, **Bovin N**, Ellamaa M, Chuzmarov V (1999). Natural IgM and IgG antibodies to Thomsen-Friedenreich (T) antigen in serum of patients with gastric cancer and blood

- donors - Relation to Lewis (a,b) histo-blood group phenotype. *Acta Oncol* 38 (7), 939–943, [10.1080/028418699432626](https://doi.org/10.1080/028418699432626)
394. Ushakova NA, Preobrazhenskaya ME, Nifantev NE, Usov AI, Pochechueva TV, Galanina OE, **Bovin NV** (1999). Inhibitory activity of monomeric and polymeric selectin ligands. *Biomed Khim* 45 (5), 382–383.
395. Mikhura IV, Formanovsky AA, **Bovin NV** (1999). One-pot scale synthesis of trifluoroacetamidopropyl 2-O-acetyl-4,6-O-benzylidene- β -D-galactopyranoside. *Carbohydr Lett* 3 (5), 305–308.
396. Shipova EV, Byramova NE, **Bovin NV** (1999). N-acylation of 1,3,4,6-tetra-O-acetyl-2-amino-2-deoxy- α -D-glucopyranose. *Bioorg Khim* 25 (8), 634–637.
397. Bharadwaj S, Kaltner H, Korchagina EY, **Bovin NV**, Gabius HJ, Suroliia A (1999). Microcalorimetric indications for ligand binding as a function of the protein for galactoside-specific plant and avian lectins. *BIOCHIM BIOPHYS ACTA* 1472 (12), 191–196, [10.1016/S0304-4165\(99\)00120-8](https://doi.org/10.1016/S0304-4165(99)00120-8)
398. Govorkova EA, Matrosovich MN, Tuzikov AB, **Bovin NV**, Gerdil C, Fanget B, Webster RG (1999). Selection of receptor-binding variants of human influenza A and B viruses in baby hamster kidney cells. *Virology* 262 (1), 31–38, [10.1006/viro.1999.9892](https://doi.org/10.1006/viro.1999.9892)
399. Shipova EV, Byramova NE, **Bovin NV** (1999). N-acylation of 1,3,4,6-tetra-O-acetyl-2-amino-2-deoxy- α -D-glucopyranose. *Russ. J. Bioorganic Chem.* 25 (8), 565–567.
400. Golovina T, Fattakhova G, Swiderek K, Makarov E, **Bovin N**, Shively J, Nesmeyanov V (1999). Specific binding of glucosaminylmuramyl peptides to histones. *FEBS Lett* 454 (12), 152–156, [10.1016/S0014-5793\(99\)00689-4](https://doi.org/10.1016/S0014-5793(99)00689-4)
401. Rimmelinck M, Darro F, Decaestecker C, De Decker R, **Bovin NV**, Gebhart M, Kaltner H, Gabius HJ, Kiss R, Salmon I, Danguy A (1999). In vitro influence of lectins and neoglycoconjugates on the growth of three human sarcoma cell lines. *Z Krebsforsch Klin Onkol Cancer Res Clin Oncol* 125 (5), 275–285, [10.1007/s004320050274](https://doi.org/10.1007/s004320050274)
402. Mikhura IV, Formanovsky AA, **Bovin NV** (1999). One-pot scale synthesis of trifluoroacetamidopropyl 2-O-acetyl-4,6-O-benzylidene-beta-D-galactopyranoside. *Carbohydr Lett* 3 (5), 305–308.
403. **Bovin NV** (1999). Carbohydrate-carbohydrate interaction. *Biochemistry (Mosc)* 61 (6), 968–983.
404. Oleinikov V, Kryukov E, Kovner M, Ermishov M, Tuzikov A, Shiyani S, **Bovin N**, Nabiev I (1999). Sialylation sensitive bands in the Raman spectra of oligosaccharides and glycoproteins. *J Mol Struct* 480481, 475–480, [10.1016/S0022-2860\(99\)00016-2](https://doi.org/10.1016/S0022-2860(99)00016-2)
405. Šedivá A, Smetana K, Stejskal J, Bartůňková J, Liu FT, **Bovin NV**, Gabius HJ (1999). Binding sites for carrier-immobilized carbohydrates in the kidney: Implication for the pathogenesis of Henoch-Schönlein purpura and/or IgA nephropathy. *Proc Eur Dial Transplant Assoc Eur Ren Assoc* 14 (12), 2885–2891, [10.1093/ndt/14.12.2885](https://doi.org/10.1093/ndt/14.12.2885)
406. Simeoni LA, Bairamova NE, **Bovin NV** (1999). Synthesis of Neu5Ac(α 2 \rightarrow 6)[Gal(α 1 \rightarrow 3)]GalNAc α and Neu5Ac(α 2 \rightarrow 6)[Gal(β 1 \rightarrow 3)]GalNAc α trisaccharides as protected trifluoroacetamidopropyl glycosides. *Bioorg Khim* 25 (1), 62–69.
407. Simeoni LA, Byramova NE, **Bovin NV** (1999). The synthesis of trisaccharides Neu5Ac(α 2 \rightarrow 6)[Gal(α 1 \rightarrow 3)]GalNAc α and Neu5Ac(α 2 \rightarrow 6)[Gal(β 1 \rightarrow 3)]GalNAc α as protected trifluoroacetamidopropyl glycosides. *Russ. J. Bioorganic Chem.* 25 (1), 55–61.
408. Kurtenkov O, Klaamas K, Miljukhina L, Shljapnikova L, Ellamaa M, **Bovin N**, Wadström T (1999). IgG antibodies to Lewis type 2 antigens in serum of H. pylori-infected and noninfected blood donors of different Lewis(a,b) blood-group phenotype. *FEMS Immunol Med Microbiol* 24 (2), 227–232, [10.1016/S0928-8244\(99\)00031-0](https://doi.org/10.1016/S0928-8244(99)00031-0)
409. Smetana K, Holíková Z, Klubal R, **Bovin NV**, Dvořánková B, Bartůňková J, Liu FT, Gabius HJ (1999). Coexpression of binding sites for A(B) histo-blood group trisaccharides with galectin-3 and Lag antigen in human Langerhans cells. *J Leukoc Biol* 66 (4), 644–649, [10.1002/jlb.66.4.644](https://doi.org/10.1002/jlb.66.4.644)
410. Froňková V, Holíková Z, Liu FT, Homolka J, Rijken DC, André S, **Bovin NV**, Smetana K, Gabius HJ (1999). Simultaneous detection of endogenous lectins and their binding capacity at the single-cell level - A technical note. *Folia Biol (Praha)* 45 (4), 157–162.
411. Galanina OE, Tuzikov AB, Rapoport E, Le Pendu J, **Bovin NV** (1998). Carbohydrate-based probes for detection of cellular lectins. *Anal Biochem* 265 (2), 282–289, [10.1006/abio.1998.2859](https://doi.org/10.1006/abio.1998.2859)
412. Timoshenko AV, **Bovin NV**, Shiyani SD, Vakhrushev SY, André S, Gabius HJ (1998). Modification of the

- functional activity of neutrophils treated with acute phase response proteins. *Biochemistry (Mosc)* 63 (5), 546–550.
413. Strenge K, Schauer R, **Bovin N**, Hasegawa A, Ishida H, Kiso M, Kelm S (1998). Glycan specificity of myelin-associated glycoprotein and sialoadhesin deduced from interactions with synthetic oligosaccharides. 258 (2), 677–685, [10.1046/j.1432-1327.1998.2580677.x](https://doi.org/10.1046/j.1432-1327.1998.2580677.x)
 414. Semenov AV, Mazurov AV, Preobrazhenskaya ME, Ushakova NA, Mikhailov VI, Berman AE, Usov AI, Nifantev NE, **Bovin NV** (1998). Sulfated polysaccharides as inhibitors of receptor activity of P-selectin and P-selectin-dependent inflammation. *Biomed Khim* 44 (2), 135–144.
 415. Kovalenko EI, Sablina MA, Khaidukov SV, Khirova EV, **Bovin NV** (1998). The incorporation of neoglycolipids into K562 cells: A model for the study of carbohydrate-dependent cytolysis of target cells by natural killer cells. *Russ. J. Bioorganic Chem.* 24 (3), 200–203.
 416. Oleinikov VA, Feofanov AV, Shiyan SD, Tuzikov AB, Kryukov EY, Yanul AI, **Bovin NV**, Nabiev IR (1998). Surface-enhanced raman scattering spectroscopy study of carbohydrate chains in α 1-acid glycoprotein and pseudoglycoproteins. *Russ. J. Bioorganic Chem.* 24 (6), 361–369.
 417. Price MR, Rye PD, Petrakou E, Murray A, Brady K, Imai S, Haga S, Kiyozuka Y, Schol D, Meulenbroek MFA, Snijdwint FGM, Von Mensdorff-Pouilly S, Verstraeten RA, Kenemans P, Blockzijl A, Nilsson K, Nilsson O, Reddish M, Suresh MR, Koganty RR, Fortier S, Baronc L, Berg A, Longenecker MB, Hilkens J, Boer M, Karanikas V, McKenzie IFC, Galanina OE, Simeoni LA, Ter-Grigoryan AG, Belyanchikov IM, **Bovin NV**, Cao Y, Karsten U, Dai J, Allard WJ, Davis G, Yeung KK, Hanisch FG, Lloyd KO, Kudryashov V, Sikut R, Sikut A, Zhang K, Baekström D, Hansson GC, Reis CA, Hassan H, Bennett EP, Claussen H, Norum L, Varaas T, Kierulf B, Nustad K, Ciborowski P, Konitzki WM, Magarian- Blander J, Finn OJ, Hilgers J (1998). Summary report on the ISOBM TD-4 Workshop: Analysis of 56 monoclonal antibodies against the MUC1 mucin. San Diego, Calif., November 17-23, 1996. *Tumour Biol* 19 (1), 1–20.
 418. Oleinikov VA, Feofanov AV, Shiyan SD, Tuzikov AB, Kryukov EY, Yanul AI, **Bovin NV**, Nabiev IR (1998). Surface-enhanced Raman Scattering Spectroscopy Study of Carbohydrate Chains in α 1-Acid Glycoprotein and Pseudoglycoproteins. *Bioorg Khim* 24 (6), 420–421.
 419. Kayser K, Biechele U, Kayser G, Dienemann H, André S, **Bovin NV**, Gabius HJ (1998). Pulmonary metastases of breast carcinomas: Ligandohistochemical, nuclear, and structural analysis of primary and metastatic tumors with emphasis on period of occurrence of metastases and survival. *Semin Surg Oncol* 69 (3), 137–146, [10.1002/\(SICI\)1096-9098\(199811\)69:3<137::AID-JSO4>3.0.CO;2-L](https://doi.org/10.1002/(SICI)1096-9098(199811)69:3<137::AID-JSO4>3.0.CO;2-L)
 420. Kayser K, Kayser G, Eichhorn S, Biechele U, Altiner M, Kaltner H, Zeng FY, Vlasova EV, **Bovin NV**, Gabius HJ (1998). Association of prognosis in surgically treated lung cancer patients with cytometric, histometric and ligand histochemical properties: With an emphasis on structural entropy. *Anal Quant Cytol Histol* 20 (4), 313–320.
 421. Gambaryan AS, Marinina VP, Tuzikov AB, **Bovin NV**, Rudneva IA, Sinitsyn BV, Shilov AA, Matrosovich MN (1998). Effects of host-dependent glycosylation of hemagglutinin on receptor-binding properties of H1N1 human influenza A virus grown in MDCK cells and in embryonated eggs. *Virology* 247 (2), 170–177, [10.1006/viro.1998.9224](https://doi.org/10.1006/viro.1998.9224)
 422. **Bovin NV** (1998). Polyacrylamide-based glycoconjugates as tools in glycobiology. *Glycoconj J* 15 (5), 431–446, [10.1023/A:1006963717646](https://doi.org/10.1023/A:1006963717646)
 423. Oleinikov VA, Feofanov AV, Shiian SD, Tuzikov AB, Kriukov EI, Ianul AI, **Bovin NB**, Nabiev IR (1998). Surface enhanced Raman spectroscopy for characterization of structural characteristics of carbon chains in alpha1-acid glycoprotein and pseudoglycoproteins. *Bioorg Khim* 24 (6), 412–421.
 424. Kaverin NV, Gambaryan AS, **Bovin NV**, Rudneva IA, Shilov AA, Khodova OM, Varich NL, Sinitsyn BV, Makarova NV, Kropotkina EA (1998). Postreassortment changes in influenza A virus hemagglutinin restoring HA-NA functional match. *Virology* 244 (2), 315–321, [10.1006/viro.1998.9119](https://doi.org/10.1006/viro.1998.9119)
 425. Kayser K, Ziehms S, Kayser G, Andre S, **Bovin NV**, Dong X, Kaltner H, Gabius HJ (1998). Glycohistochemical properties of malignancies of lung and pleura. *Int J Oncol* 12 (5), 1189–1194, [10.3892/ijo.12.5.1189](https://doi.org/10.3892/ijo.12.5.1189)
 426. Gilleron M, Siebert HC, Kaltner H, Von Der Lieth CW, Kozár T, Halkes KM, Korchagina EY, **Bovin NV**, Gabius HJ, Vliegenthart JFG (1998). Conformer selection and differential restriction of ligand mobility by a plant lectin - Conformational behaviour in the free state and complexed with galactoside-specific mistletoe

- lectin as revealed by random-walk and conformational-clustering molecular-mechanics calculations, molecular- dynamics simulations and nuclear Overhauser experiments. 252 (3), 416–427, [10.1046/j.1432-1327.1998.2520416.x](https://doi.org/10.1046/j.1432-1327.1998.2520416.x)
427. Vodovozova EL, Gayenko GP, Razinkov VI, Korchagina EY, **Bovin NV**, Molotkovsky JG (1998). Saccharide-assisted delivery of cytotoxic liposomes to human malignant cells. *Biochem Mol Biol Int* 44 (3), 543–553, [10.1080/15216549800201582](https://doi.org/10.1080/15216549800201582)
428. Kovalenko EI, Sablina MA, Khaidukov SV, Khirova EV, **Bovin NV** (1998). The Incorporation of Neoglycolipids into K562 Cells: A Model for the Study of Carbohydrate-dependent Cytolysis of Target Cells by Natural Killer Cells. *Bioorg Khim* 24 (3), 227–228.
429. Rye PD, **Bovin NV**, Vlasova EV, Molodyk AA, Baryshnikov A, Kreutz FT, Garinther WI, Schultes BC, Noujaim AA, Madiyalakan R, Magnani J, Nilsson O, Nilsson K, Nustad K, Norum L, Bell H, Cao Y, Suresh MR, Very DL, Freeman JV, Yeung KK, Hilgers J (1998). Summary report on the ISOBM TD-6 workshop: Analysis of 20 monoclonal antibodies against Sialyl Lewis(a) and related antigens. Montreux, Switzerland, September 19-24, 1997. *Tumour Biol* 19 (5), 390–420, [10.1159/000030032](https://doi.org/10.1159/000030032)
430. Smorodin JP, Kurtenkov OA, Miljukhina LM, Sergeev BL, Hint EK, **Bovin NV**, Lipping AA, Chuzhmarov VJ (1997). Thomsen-friedenreich antigen-specific igm antibodies: diagnostic significance for gastric and breast cancer. *Exp Oncol* 19 (4), 338–342.
431. Price MR, Rye PD, Petrakou E, Murray A, Brady K, Imai S, Haga S, Kiyozuka Y, Schol D, Meulenbroek MFA, Snijdewint FGM, Von Mensdorff-Pouilly S, Verstraeten RA, Kenemans P, Blockzijl A, Nilsson K, Nilsson O, Reddish M, Suresh MR, Koganty RR, Fortier S, Baronc L, Berg A, Longenecker MB, Hilkens J, Boer M, Karanikas V, McKenzie IFC, Galanina OE, Simeoni LA, Ter-Grigoryan AG, Belyanchikov IM, **Bovin NV**, Cao Y, Karsten U, Dai J, Allard WJ, Davis G, Yeung KK, Hanisch FG, Lloyd KO, Kudryashov V, Sikut R, Sikut A, Zhang K, Baeckström D, Hansson GC, Reis CA, Hassan H, Bennett EP, Claussen H, Norum L, Varaas T, Kierulf B, Nustad K, Ciborowski P, Konitzki WM, Magarian-Blander J, Finn OJ, Hilgers J (1997). Summary report on the ISOBM TD-4 Workshop: Analysis of 56 monoclonal antibodies against the MUC1 mucin. *Tumour Biol* 19 (1), 1–20, [10.1159/000056500](https://doi.org/10.1159/000056500)
432. Feofanov AV, Oleinikov VA, Tuzikov AB, Yanoul AI, Kryukov EY, **Bovin NV**, Nabiev IR (1997). Study of Sialylated Neoglycoconjugates by Surface-Enhanced Raman Scattering Spectroscopy. *Bioorg Khim* 23 (11), 917–918.
433. Ovchinnikova TV, Ter-Grigoryan AG, Pazynina GV, **Bovin NV** (1997). Synthesis of Terminal Disaccharide of Forssman's Antigen and Some of Its Analogs as Spaced Glycosides and Free Disaccharides. *Bioorg Khim* 23 (1), 73–74.
434. Galanina OE, Simeoni LA, Ter-Grigoryan AG, Belyanchikov IM, **Bovin NV** (1997). Determination of carbohydrate specificity of monoclonal antibodies against MUC1. *Tumour Biol* 19 (1), 79–87, [10.1159/000056508](https://doi.org/10.1159/000056508)
435. Simeoni LA, Byramova NE, **Bovin NV** (1997). Synthesis of Aminopropylglycoside Neu5Aca2-6GalNAca, the SiaTnAntigen. *Bioorg Khim* 23 (9), 761–762.
436. Simeoni LA, Tuzikov AB, Byramova NE, **Bovin NV** (1997). Thioglycosides of N-Acetyl- and N-Glycolylneuraminic Acid as Glycosyl Donors. Synthesis of 3-Aminopropylglycosides. *Bioorg Khim* 23 (2), 145–146.
437. Feofanov AV, Oleinikov VA, Tuzikov AB, Yanoul AI, Kryukov EY, **Bovin NV**, Nabiev IR (1997). Study of sialylated neoglycoconjugates by surface-enhanced Raman scattering spectroscopy. *Russ. J. Bioorganic Chem.* 23 (11), 810–817.
438. Preobrazhenskaya ME, Berman AE, Mikhailov VI, Ushakova NA, Mazurov AV, Semenov AV, Usov AI, Nifantev NE, **Bovin NV** (1997). Fucoidan inhibits leukocyte recruitment in a model peritoneal inflammation in rat and blocks interaction of P-selectin with its carbohydrate ligand. *Biochem Mol Biol Int* 43 (2), 443–451.
439. Smorodin EP, Jansson B, Milyukhina L, Paaski G, **Bovin NV**, Ovchinnikova TV, Kurtenkov O (1997). Enzyme-linked immunosorbent assay of IgM antibodies to Thomsen-Friedenreich (TF) hapten in oncodiagnostics: Comparison of data obtained with four TF-glycoconjugates. *Russ. J. Bioorganic Chem.* 23 (10), 718–721.
440. Shiyan SD, **Bovin NV** (1997). Carbohydrate composition and immunomodulatory activity of different glycoforms of α 1-acid glycoprotein. *Glycoconj J* 14 (5), 631–638, [10.1023/A:1018544711767](https://doi.org/10.1023/A:1018544711767)

441. Simeoni LA, Byramova NE, **Bovin NV** (1997). Synthesis of aminopropylglycoside of the SiaTn antigen Neu5Ac α 2-6GalNAc α . *Russ. J. Bioorganic Chem.* 23 (9), 683–691.
442. Kojima S, André S, Korchagina EY, **Bovin NV**, Gabius HJ (1997). Tyramine-containing poly(4-nitrophenylacrylate) as iodinated ligand carrier in biodistribution analysis. *Pharm Res* 14 (7), 879–886, [10.1023/A:1012195615944](https://doi.org/10.1023/A:1012195615944)
443. Gambaryan AS, Tuzikov AB, Piskarev VE, Yamnikova SS, Lvov DK, Robertson JS, **Bovin NV**, Matrosovich MN (1997). Specification of receptor-binding phenotypes of influenza virus isolates from different hosts using synthetic sialylglycopolymers: Non-egg-adapted human H1 and H3 influenza A and influenza B viruses share a common high binding affinity for 6'-sialyl(N-acetyl)lactosamine. *Virology* 232 (2), 345–350, [10.1006/viro.1997.8572](https://doi.org/10.1006/viro.1997.8572)
444. Kayser K, André S, **Bovin NV**, Zeng FY, Gabius HJ (1997). Preneoplasia-associated expression of calcyclin and of binding sites for synthetic blood group A/H trisaccharide - Exposing neoglycoconjugates in human lung. *Cancer Biochem Biophys* 15 (4), 235–243.
445. Galanina OE, Kaltner H, Khraltsova LS, **Bovin NV**, Gabius HJ (1997). Further refinement of the description of the ligand-binding characteristics for the galactoside-binding mistletoe lectin, a plant agglutinin with immunomodulatory potency. *J Mol Recognit* 10 (3), 139–147, [10.1002/\(SICI\)1099-1352\(199705/06\)10:3<139::AID-JMR358>3.0.CO;2-R](https://doi.org/10.1002/(SICI)1099-1352(199705/06)10:3<139::AID-JMR358>3.0.CO;2-R)
446. Rye PD, **Bovin NV** (1997). Selection of carbohydrate-binding cell phenotypes using oligosaccharide-coated magnetic particles. *Glycobiology* 7 (2), 179–182, [10.1093/glycob/7.2.179](https://doi.org/10.1093/glycob/7.2.179)
447. Simeoni LA, Tuzikov AB, Byramova NE, **Bovin NV** (1997). Thioglycosides of N-acetyl- and N-glycolylneuraminic acids as glycosyl donors. Synthesis of 3-aminopropylglycosides. *Russ. J. Bioorganic Chem.* 23 (2), 126–132.
448. Ovchinnikova TV, Ter-Grigoryan AG, Pazynina GV, **Bovin NV** (1997). Synthesis of terminal disaccharide of Forssman's antigen and some of its analogs as spaced glycosides and free disaccharides. *Russ. J. Bioorganic Chem.* 23 (1), 55–68.
449. Smorodin EP, Jansson B, Milyukhina L, Paaski G, **Bovin NV**, Ovchinnikova TV, Kurtenkov O (1997). Enzyme-Linked Immunosorbent Assay of IgM antibodies to Thomsen-Friedenreich (TF) Hapten in Oncodiagnosics: Comparison of Data Obtained with Four TF-glycoconjugates. *Bioorg Khim* 23 (10), 798–799.
450. Loréa P, Goldschmidt D, Darro F, Salmon I, **Bovin N**, Gabius HJ, Kiss R, Danguy A (1997). In vitro characterization of lectin-induced alterations on the proliferative activity of three human melanoma cell lines. *Melanoma Res* 7 (5), 353–363, [10.1097/00008390-199710000-00001](https://doi.org/10.1097/00008390-199710000-00001)
451. Tuzikov AB, Byramova NE, **Bovin NV**, Gambaryan AS, Matrosovich MN (1997). Monovalent and polymeric 5N-thioacetamido sialosides as tightly-bound receptor analogs of influenza viruses. *Antiviral Res* 33 (2), 129–134, [10.1016/S0166-3542\(96\)00998-9](https://doi.org/10.1016/S0166-3542(96)00998-9)
452. Rapoport EM, Zhigis LS, Ivanov AE, Korchagina EJ, Ovchinnikova TV, Zubov VP, **Bovin NV** (1997). Isolation and characterization of galactose-binding lectins from human serum. *Int. J. Bio-Chromatogr.* 3 (1), 57–67.
453. Rieben R, Korchagina EY, **Bovin NV**, Daha MR (1997). Specificity of monoclonal antibodies against ABH and related structures tested by ELISA with synthetic glycoconjugates. *Transfus Clin Biol* 4 (1), 47–54, [10.1016/S1246-7820\(97\)80010-9](https://doi.org/10.1016/S1246-7820(97)80010-9)
454. Simeoni LA, Bairamova NE, **Bovin NV** (1996). Synthesis of Derivatives of N-Glycolylneuraminic Acid Ethylthioglycoside and Their Use As Glycosyl Donors. *Bioorg Khim* 22 (8), .
455. Feofanov AV, Oleinikov VA, Tuzikov AB, Ianoul AI, Kryukov EY, Sokolov KV, **Bovin NV**, Nabiev IR (1996). Surface-Enhanced Raman Scattering Spectroscopy of Sialosides and Their Derivatives. *Bioorg Khim* 22 (9), .
456. **Bovin NV** (1996). Carbohydrate-carbohydrate interactions: A review. *Biochemistry (Mosc)* 61 (6), 694–704.
457. **Bovin NV** (1996). Polyacrylamide-Based Glycoconjugates as Tools for Studying Lectins, Antigens and Glycosyltransferases in Glycobiology, Cytochemistry, and Histochemistry. *Bioorg Khim* 22 (9), .
458. Taniguchi S, Neethling FA, Korchagina EY, **Bovin N**, Ye Y, Kobayashi T, Niekrasz M, Li S, Koren E, Oriol R, Cooper DKC (1996). In vivo immunoadsorption of anti-pig antibodies in baboons using a specific Gal α 1-3Gal column. *Transplant Bull* 62 (10), 1379–1384, [10.1097/00007890-199611270-00001](https://doi.org/10.1097/00007890-199611270-00001)
459. Hassid S, Salmon I, **Bovin NV**, Kiss R, Gabius HJ, Danguy A (1996). Histochemical detection of expression of binding sites for labelled hyaluronic acid and carrier-immobilized synthetic (histo-blood group

- trisaccharides) or biochemically purified (ganglioside GM1) glycoligands in nasal polyps and other human lesions including neoplasms. *Histol Histopathol* 11 (4), 985–992.
460. Kayser K, Kaltner H, Dong X, Knapp M, Schmettow HK, Vlasova EV, **Bovin NV**, Gabius HJ (1996). Prognostic relevance of detection of ligands for vertebrate galactins and a Lewis(Y)-specific monoclonal antibody: A prospective study of bronchial carcinoma patients treated surgically. *Int J Oncol* 9 (5), 893–900.
461. Kayser K, Kayser C, Rahn W, **Bovin NV**, Gabius HJ (1996). Carcinoid tumors of the lung: Immuno- and ligandohistochemistry, analysis of integrated optical density, syntactic structure analysis, clinical data, and prognosis of patients treated surgically. *Semin Surg Oncol* 63 (2), 99–106, [10.1002/\(SICI\)1096-9098\(199610\)63:2<99::AID-JSO6>3.0.CO;2-J](https://doi.org/10.1002/(SICI)1096-9098(199610)63:2<99::AID-JSO6>3.0.CO;2-J)
462. **Bovin NV** (1996). Polyacrylamide-based glycoconjugates as tools for studying lectins, antigens, and glycosyltransferases in glycobiology, cytochemistry, and histochemistry (review). *Russ. J. Bioorganic Chem.* 22 (9), 547–566.
463. Feofanov AV, Oleinikov VA, Tuzikov AB, Ianoul AI, Kryukov EY, Sokolov KV, **Bovin NV**, Nabiev IR (1996). Surface-enhanced raman scattering spectroscopy of sialosides and their derivatives. *Russ. J. Bioorganic Chem.* 22 (9), 605–614.
464. Simeoni LA, Bairamova NE, **Bovin NV** (1996). Synthesis of derivatives of N-glycolylneuraminic acid ethylthioglycoside and their use as glycosyl donors. *Russ. J. Bioorganic Chem.* 22 (8), 513–519.
465. Weitz-Schmidt G, Stokmaier D, Scheel G, Nifantev NE, Tuzikov AB, **Bovin NV** (1996). An E-selectin binding assay based on a polyacrylamide-type glycoconjugate. *Anal Biochem* 238 (2), 184–190, [10.1006/abio.1996.0273](https://doi.org/10.1006/abio.1996.0273)
466. Rapoport EM, Zhigis LS, Korchagina EY, Ovchinnikova TV, Zubov VP, **Bovin NV** (1996). Isolation and characterization of galactose-binding lectins from human serum. *Russ. J. Bioorganic Chem.* 22 (5), 303–307.
467. Vlasova EV, Vorozhaikina MM, Khraltsova LS, Tuzikov AB, Popova IS, Tsvetkov YE, Nifantev NE, **Bovin NV** (1996). Receptors of selectins. 5. Monoclonal antibodies to synthetic antigens SiaLea and SiaLex. *Russ. J. Bioorganic Chem.* 22 (5), 308–315.
468. Abramenko IV, Belous NI, Gluzman DF, Teartash TV, **Bovin NV** (1996). Mannose-6-phosphate binding protein of tumor cells detected with synthetic oligosaccharide probes. *Exp Oncol* 18 (1), 26–29.
469. Neethling FA, Joziassse D, **Bovin N**, Cooper DKC, Oriol R (1996). The reducing end of α Gal oligosaccharides contributes to their efficiency in blocking natural antibodies of human and baboon sera. *Transpl Int* 9 (2), 98–101, [10.1007/BF00336385](https://doi.org/10.1007/BF00336385)
470. Siebert HC, Gilleron M, Kaltner H, Von Der Lieth CW, Kozár T, **Bovin N**, Korchagina EY, Vliegenthart JFG, Gabius HJ (1996). NMR-based, molecular dynamics- and random walk molecular mechanics-supported study of conformational aspects of a carbohydrate ligand (Gal β 1-2Gal β 1-R) for an animal galectin in the free and in the bound state. *Biochem Biophys Res Commun* 219 (1), 205–212, [10.1006/bbrc.1996.0206](https://doi.org/10.1006/bbrc.1996.0206)
471. Vlasova EV, Vorozhaikina MM, Khraltsova LS, Tuzikov AB, Popova IS, Tsvetkov YE, Nifantev NE, **Bovin NV** (1996). Receptors of Selectins. 5. Monoclonal Antibodies to Synthetic Antigens SiaLea and SiaLex. *Bioorg Khim* 22 (5), 364–365.
472. Rapoport EM, Zhigis LS, Korchagina EY, Ovchinnikova TV, Zubov VP, **Bovin NV** (1996). Isolation and Characterization of Galactose-Binding Lectins from Human Serum. *Bioorg Khim* 22 (5), 357.
473. Nifantev NE, Tsvetkov YE, Shashkov AS, Kononov LO, Menshov VM, Tuzikov AB, **Bovin NV** (1996). Selectin receptors 4: Synthesis of tetrasaccharides sialyl lewis A and sialyl lewis X containing a spacer group. *J Carbohydr Chem* 15 (8), 939–953, [10.1080/07328309608005700](https://doi.org/10.1080/07328309608005700)
474. **Bovin NV**, Gabius HJ (1995). Polymer-immobilized carbohydrate ligands: versatile chemical tools for biochemistry and medical sciences. *Chem Soc Rev* 24 (6), 413–421, [10.1039/CS9952400413](https://doi.org/10.1039/CS9952400413)
475. Rieben R, Korchagina EY, von Allmen E, Hovinga JK, Lammler B, Jungi TW, **Bovin NV**, Nydegger UE (1995). In vitro evaluation of the efficacy and biocompatibility of new, synthetic abo immunoabsorbents. *Transplant Bull* 60 (5), 425–430, [10.1097/00007890-199509000-00004](https://doi.org/10.1097/00007890-199509000-00004)
476. Gambaryan AS, Piskarev VE, Yamskov IA, Sakharov AM, Tuzikov AB, **Bovin NV**, Nifantev NE, Matrosovich MN (1995). Human influenza virus recognition of sialyloligosaccharides. *FEBS Lett* 366 (1), 57–60, [10.1016/0014-5793\(95\)00488-U](https://doi.org/10.1016/0014-5793(95)00488-U)
477. Rapoport EM, Zhigis LS, Vlasova EV, Piskarev VE, **Bovin NV**, Zubov VP (1995). Purification of monoclonal antibodies to Ley and Led carbohydrate antigens by ion-exchange and thiophilic-adsorption chromatography.

Bioseparation 5 (3), 141–146.

478. Rye PD, **Bovin NV**, Vlasova EV, Walker RA (1995). Monoclonal antibody LU-BCRU-g7 against a breast tumour-associated glycoprotein recognizes the disaccharide Gal β 1-3GlcNAc. *Glycobiology* 5 (4), 385–389, [10.1093/glycob/5.4.385](https://doi.org/10.1093/glycob/5.4.385)
479. Danguy A, Kayser K, **Bovin NV**, Gabius HJ (1995). The Relevance of Neoglycoconjugates for Histology and Pathology. *Trends Glycosci. Glycotechnol.* 7 (36), 261–275, [10.4052/tigg.7.261](https://doi.org/10.4052/tigg.7.261)
480. Vlasova EV, Byramova NE, Tuzikov AB, Zhigis LS, Rapoport EM, Khaidukov SV, **Bovin NV** (1994). Monoclonal antibodies directed to the synthetic carbohydrate antigen Le(y). *Hybridoma* 13 (4), 295–301, [10.1089/hyb.1994.13.295](https://doi.org/10.1089/hyb.1994.13.295)
481. **Bovin NV** (1994). Mab of series SY1 (SY11, SY12, SY13, SY14, SY15, SY1-PL) anti-Le(y). *Hybridoma* 13 (4), 340, [10.1089/hyb.1994.13.340](https://doi.org/10.1089/hyb.1994.13.340)
482. **Bovin NV** (1994). SY11 MAb to Le(y). *Hybridoma* 13 (4), 337, [10.1089/hyb.1994.13.337](https://doi.org/10.1089/hyb.1994.13.337)
483. **Bovin NV** (1994). Sy-PL Mab to Le(y). *Hybridoma* 13 (4), 339, [10.1089/hyb.1994.13.339](https://doi.org/10.1089/hyb.1994.13.339)
484. **Bovin NV** (1994). SY12 Mab to Le(y). *Hybridoma* 13 (4), 338, [10.1089/hyb.1994.13.338](https://doi.org/10.1089/hyb.1994.13.338)
485. Kayser K, **Bovin NV**, Zemlyanukhina TV, Donaldo-Jacinto S, Koopmann J, Gabius HJ (1994). Cell type-dependent alterations of binding of synthetic blood group antigen-related oligosaccharides in lung cancer. *Glycoconj J* 11 (4), 339–344, [10.1007/BF00731207](https://doi.org/10.1007/BF00731207)
486. Pukhalskii AL, Toptygina AP, Kalashnikova EA, Shiyan SD, Nasonov VV, **Bovin NV**, Lyutov AG, Bairushin FT (1994). Immunomodulating effects of α 1-acid glycoprotein (Orosomuroid) in a culture of human peripheral blood lymphocytes glycoprotein (Orosomuroid) in a culture of human peripheral blood lymphocytes. *Bull Exp Biol Med* 118 (1), 755–757, [10.1007/BF02444377](https://doi.org/10.1007/BF02444377)
487. Karelin AA, Phylippova MM, Blishchenko Yu E, **Bovin NV**, Nasonov VV, Shiyan SD, Petrova EE, Nesmeyanov VA, Sashchenko LP, Gnuchev NV (1994). Albumin-like glycoprotein from human fetal tissue. *Biochem Mol Biol Int* 33 (1), 73–80.
488. Kayser K, **Bovin NV**, Korchagina EY, Zeilinger C, Zeng FY, Gabius HJ (1994). Correlation of expression of binding sites for synthetic blood group A-, B- and H- trisaccharides and for sarcolectin with survival of patients with bronchial carcinoma. *Eur J Cancer Clin Oncol* 30 (5), 653–657, [10.1016/0959-8049\(94\)90538-X](https://doi.org/10.1016/0959-8049(94)90538-X)
489. Mochalova LV, Tuzikov AB, Marinina VP, Gambaryan AS, Byramova NE, **Bovin NV**, Matrosovich MN (1994). Synthetic polymeric inhibitors of influenza virus receptor-binding activity suppress virus replication. *Antiviral Res* 23 (34), 179–190, [10.1016/0166-3542\(94\)90016-7](https://doi.org/10.1016/0166-3542(94)90016-7)
490. Sokolov KV, Byramova NE, Mochalova LV, Tuzikov AB, Shiyan SD, **Bovin NV**, Nabiev IR (1993). Detection of sialic acid residues and studies of their organization in normal and tumor α 1-acid glycoproteins as probed by surface-enhanced Raman spectroscopy. *Appl Spectrosc* 47 (5), 535–538, [10.1366/0003702934067153](https://doi.org/10.1366/0003702934067153)
491. **Bovin NV**, Korchagina EY, Zemlyanukhina TV, Byramova NE, Galanina OE, Zemlyakov AE, Ivanov AE, Zubov VP, Mochalova LV (1993). Synthesis of polymeric neoglycoconjugates based on N-substituted polyacrylamides. *Glycoconj J* 10 (2), 142–151, [10.1007/BF00737711](https://doi.org/10.1007/BF00737711)
492. Matrosovich MN, Gambaryan AS, Tuzikov AB, Byramova NE, Mochalova LV, Golbraikh AA, Shenderovich MD, Finne J, **Bovin NV** (1993). Probing of the receptor-binding sites of the h1 and h3 influenza a and influenza b virus hemagglutinins by synthetic and natural sialosides. *Virology* 196 (1), 111–121, [10.1006/viro.1993.1459](https://doi.org/10.1006/viro.1993.1459)
493. Byramova NE, Tuzikov AB, **Bovin NV** (1992). A simple procedure for the synthesis of the methyl and benzyl glycosides of Neu5Ac and 4-epi-Neu5Ac. Conversion of the benzyl and methyl glycosides of Neu5Ac into N-trifluoroacetylneuraminic acid benzyl glycosides. *Carbohydr Res* 237 (C), 161–175, [10.1016/S0008-6215\(92\)84240-S](https://doi.org/10.1016/S0008-6215(92)84240-S)
494. Abramenko IV, Gluzman DF, Korchagina EY, Zemlyanukhina TV, **Bovin NV** (1992). Oligosaccharide-binding molecules on the surface of human hemopoietic and lymphoid cells. *FEBS Lett* 307 (3), 283–286, [10.1016/0014-5793\(92\)80696-E](https://doi.org/10.1016/0014-5793(92)80696-E)
495. Ivanov AE, **Bovin NV**, Korchagina EY, Zubov VP (1992). Favourable biospecific reactivity of blood group B antigenic trisaccharide chemically attached to poly-N-(2-hydroxyethyl)acrylamide-coated porous glass. *Biomed Chromatogr* 6 (1), 39–42, [10.1002/bmc.1130060111](https://doi.org/10.1002/bmc.1130060111)
496. Matrosovich MN, Mochalova LV, Marinina VP, Byramova NE, **Bovin NV** (1990). Synthetic polymeric sialoside inhibitors of influenza virus receptor-binding activity. *FEBS Lett* 272 (12), 209–212, [10.1016/0014-](https://doi.org/10.1016/0014-)

[5793\(90\)80486-3](#)

497. **Bovin NV**, Musina LY, Khorlin AY (1986). Approaches to the selective benzylation of the primary hydroxyl group. *B ACAD SCI USSR CH+* 35 (3), 614–617, [10.1007/BF00953238](#)
498. **Bovin NV**, Zurabyan SE, Khorlin AY (1983). Stereoselectivity of glycosylation with derivatives of 2-azido-2-deoxy-d-galactopyranose. The synthesis of a determinant oligosaccharide related to blood-group a (type 1). *Carbohydr Res* 112 (1), 23–35, [10.1016/0008-6215\(83\)88263-9](#)
499. **Bovin NV**, Zurabyan SE, Khorlin AY (1983). The effect of substituents on the reactivity of the double bond of d-glycals. *J Carbohydr Chem* 2 (3), 249–262, [10.1080/07328308308057872](#)
500. **Bovin NV**, Zurabyan SE, Khorlin AY (1982). Stereoselectivity in glycosylation by means of 2-azido-2-desoxy-D-galactopyranose derivatives and the synthesis of the determinative oligosaccharide of blood group A, type 1. *B ACAD SCI USSR CH+* 31 (5), 1023–1030, [10.1007/BF00949960](#)
501. **Bovin NV**, Zurabyan SE, Khorlin AY (1981). Convenient method for synthesis of 2-methyl-glyco[2,1-d]-2-oxazolines. *B ACAD SCI USSR CH+* 30 (12), 2339–2340, [10.1007/BF00963706](#)
502. **Bovin NV**, Zurabyan SE, Khorlin AY (1981). Addition of halogenoazides to glycals. *Carbohydr Res* 98 (1), 25–35, [10.1016/S0008-6215\(00\)87138-4](#)
503. **Bovin NV**, Zurabyan SE, Khorlin AY (1981). Nucleophilic substitution at C2 of hexopyranoses. *B ACAD SCI USSR CH+* 30 (7), 1329–1331, [10.1007/BF01418005](#)
504. **Bovin NV**, Nesmeyanov VA, Khorlin AY (1977). Methylation of carbohydrates with methyl iodide in presence of dimsilpotassium. *B ACAD SCI USSR CH+* 26 (12), 2622–2624, [10.1007/BF00924589](#)