



MERCK

CRISPR CORE PARTNERSHIP PROGRAM

Presented to and in Agreement with:

**The Branch of the M.M.Shemyakin
Yu.A.Ovchinnikov Institute of Bioorganic
Chemistry of the Russian Academy of Sciences
(BBIBCh RAS)**



The life science business of Merck operates as MilliporeMerck in the U.S. and Canada.

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1. CRISPR CORE PARTNERSHIP MEMBER

*Dr Taras V. Shevchuk
D.Sc (biological sciences)
acting for head of Laboratory of Plant Biotechnology*

Merck customer number 35603837

2. CRISPR CORE PARTNERSHIP PROGRAM VISION

The Merck Core Partnership Program aims to provide Leading Scientists at Core Facilities with easy access to world class service and a market-leading portfolio of innovative CRISPR reagents. By empowering Core Facility researchers with greater access to these technologies and supporting resources, breakthrough discoveries can be made more quickly, confidently and accurately.

Merck's scientific expertise and knowledge spans the entire Genome Editing process including, an industry-leading bioinformatics engine and the manufacturing, validation, and application testing of reagents in our diverse product portfolio.

3. BENEFITS FOR & COMMITMENTS FROM PARTNER

Benefits for BIBCh RAS

- A) Optimized pricing structure on broad and versatile Merck CRISPR product portfolio
- B) Early and priority access to Merck's new CRISPR products before they are launched to the marketplace (beta-testing priority)
- C) Access to technical support throughout the entire workflow – e.g. Experimental design, OT analysis, predict donor integration frequency, suggest screening methods, troubleshooting etc.
- D) Access to Merck staff for scientific-based seminars on-site
- E) Access to global networking events, e.g. user meetings
- F) Facilitation of collaborations with scientists at Merck and other program members
- G) Access to Merck's resources for European wide co-marketing efforts

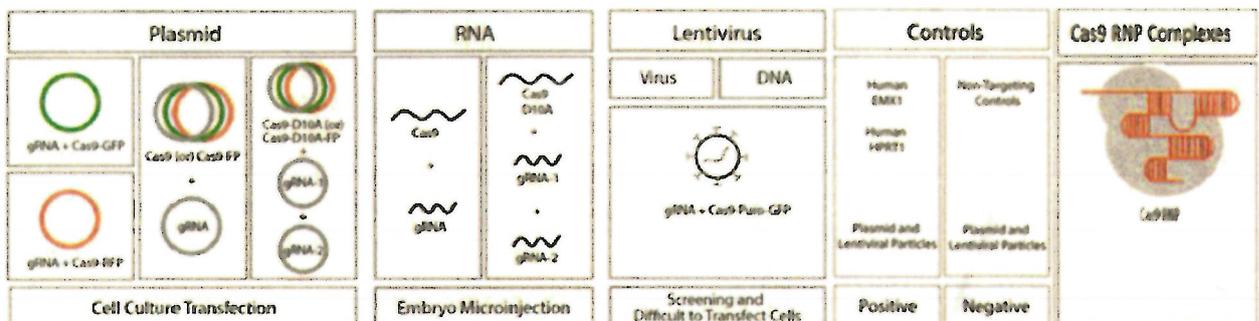
Commitments from BIBCh RAS

- H) Facilitate local and regional Merck activities and events
- I) Share relevant publications and experimental data with Merck. This data may be made available, when appropriate, to other scientists through technical seminars, Merck’s website and other marketing channels.
- J) Communicate any upcoming journal submissions utilizing data derived from the Merck CRISPR product range
- K) When possible, inform us of local upcoming learning activities such as poster sessions, seminars, etc. for sponsorship opportunities.
- L) Work with Merck for beta-testing of new, not yet released, genome editing products
- M) Engage in co-marketing activities that are mutually beneficial

4. Merck CRISPR product overview

Merck provides a diverse and innovative CRISPR product portfolio. Supported by an industry leading bioinformatics engine, we offer pre-designed as well as custom designed high-quality CRISPR reagents to enable breakthrough discoveries to be made more quickly, confidently and accurately.

- Single vector CRISPR system (U6-gRNA/Cas9-GFP or U6-gRNA/Cas9-RFP)
- Dual vector CRISPR system (Cas9 and gRNA)
- CRISPR Paired Nickases
- Positive and negative controls
- Plasmid, RNA, Lentiviral or synthetic Formats



In addition to the CRISPR reagents shown above, Merck is also proud to offer extensive options in both arrayed and pooled screening libraries. Merck CRISPR Core Partnership customers get preferential pricing for these current and coming products.

We provide information and advice to our customers on application technologies and regulatory matters to the best of our knowledge and ability, but without obligation or liability. Existing laws and regulations are to be observed in all cases by our customers. This also applies in respect to any rights of third parties. Our information and advice do not relieve our customers of their own responsibility for checking the suitability of our products for the envisaged purpose.

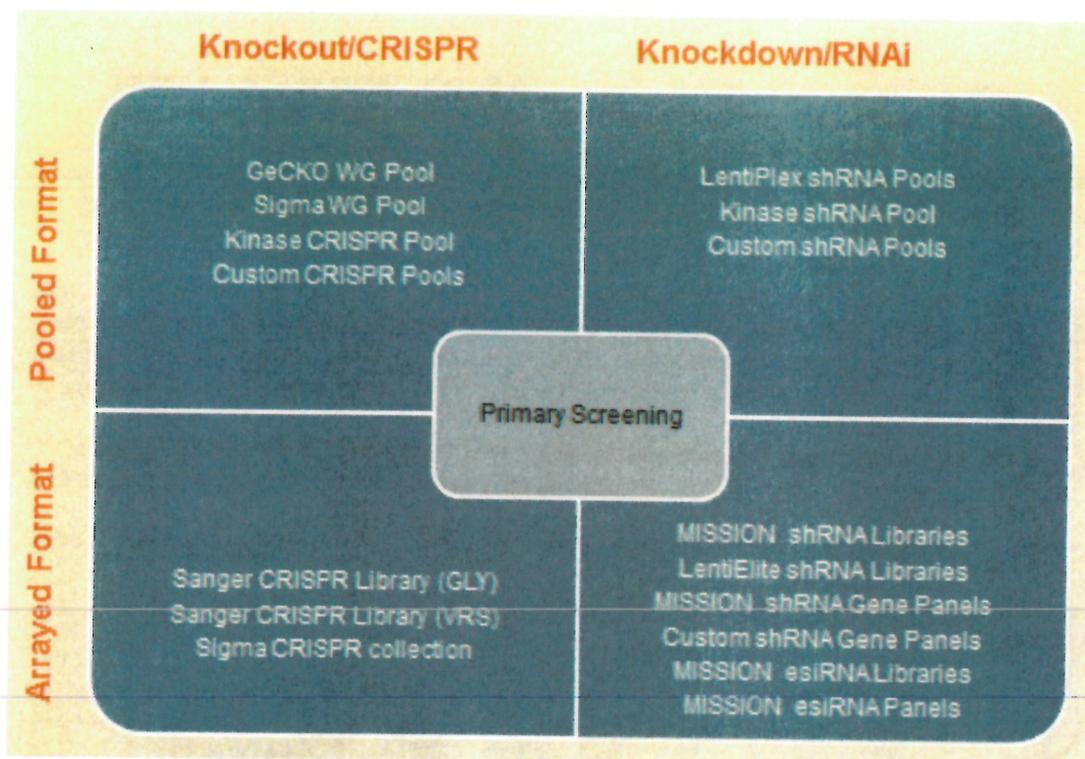


Figure 1. Overview of Merck Library offering for Functional Genomics. NB! **Confidential information** - some products are still in development – this information may be subject to change without prior notice.

5. contact information

By entering the CCPP, the member gets access to the full network of Merck representatives. Your primary contacts are listed below. These Merck representatives will be providing further access to Merck Technical Support and R&D staff.

BIBCh RAS Core Partner- Taras V. Shevchuk,
taras5656@yahoo.com, shevchuk@bibch.ru

Merck Sales Manager – Vera Myagkova,
vera.myagkova@merckgroup.com

Merck CRISPR Core Program Manager, WEU–Lora Marsh,
Lora.marsh@milliporesigma.com

6. PROGRAM AGREEMENT

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CRISPR CORE PARTNERSHIP PROGRAM



Merck welcomes BIBCh RAS as a member of the CRISPR Core Partnership Program. We believe this partnership to be mutually beneficial for both parties and will help in the advancement of research in the area of Functional Genomics.

Merck agrees to allow all researchers at BIBCh RAS to receive priority access and preferential pricing for a period of one year from the date of signing. At that time, both parties agree to review the partnership and negotiate appropriate pricing. Merck have currently licensed all known issued patents around the CRISPR technology but reserves the rights to gracefully terminate this agreement at any time if the IP landscape is altered significantly.

BIBCh RAS agrees to CRISPR Core Partnership Program member commitments and to work with Merck to promote Merck CRISPR Product range and to share experimental information and validation data. The establishment of further scientific collaborations with Merck for ongoing research in Functional Genomics is encouraged.

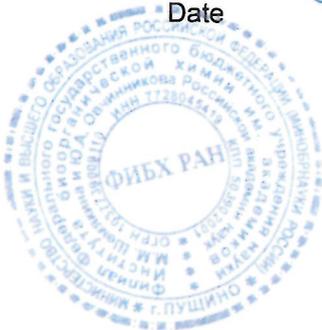
Parties signing below represent their respective institutions and agree to establish this partnership and strive to make it a mutual success.

BIBCh RAS

MERCK

14.12.2018 *[Signature]*

12.12.2018 *[Signature]*



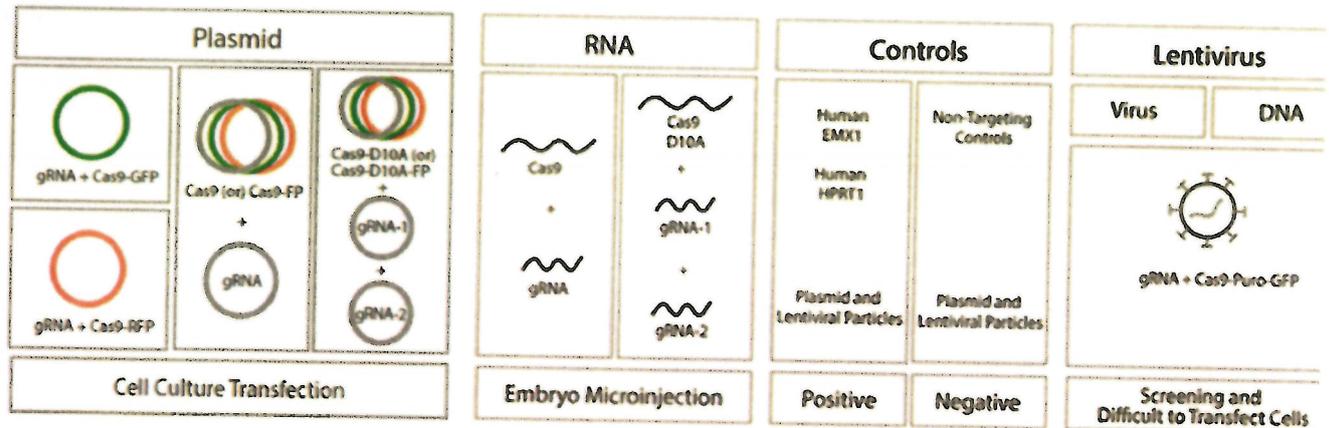
Date

Date

Appendix A - Pricing on Merck CRISPR Products

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Appendix A - Pricing on Merck CRISPR Products



See sigma.com/crisprs for detailed product information and technical data.

Appendix B - Pricing on supporting Merck Life Science products

Merck is proud to offer special pricing on supporting products to the technology platforms at BIBCh RAS.