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## LEXOGEN AND BLUEBEE PARTNER TO BRING THE SLAMSEQ METABOLIC RNA SEQUENCING DATA ANALYSIS PIPELINE TO THE USERS

**RIJSWIJK, The Netherlands and Vienna, Austria — November 10, 2017 — Bluebee, a company driving genomic data-driven medicine, and Lexogen a company enabling the analysis of the complete transcriptome, announce the successful integration of the SLAMdunk pipeline on Bluebee's private cloud-based platform, making it available to analyze data generated by every user of the SLAMseq Metabolic RNA Labeling Kit from Lexogen.**

The family of SLAMseq Metabolic RNA labeling kits was successfully released in September this year accompanying the publication of the SLAMseq method in the Nature Methods journal (DOI:10.1038/nmeth.4435). The method is based on S4U labeling of RNA in cell cultures, alkylation of RNA with iodoacetamide, and consequent introduction of T to C mutations in cDNA. By just adding two extra steps to RNA-Seq workflows, the SLAMseq approach provides a unique tool for the study of RNA metabolism and measure nascent RNA expression. Synthesis and degradation can be monitored transcriptome-wide by analyzing nascent and steady-state RNA levels in the same cell extract.

A dedicated SLAMseq data analysis pipeline SLAMdunk has been collaboratively developed by scientists from the IMP, MFPL and IMBA research institutes in Vienna, Austria and integrated on the Bluebee platform.

"At Bluebee we are helping to drive research in gene expression, not only by providing standardized execution and reducing the data analysis burden but by

helping people get more knowledge and insights from their genomic data.” said Hans Cobben, CEO of Bluebee.

The SLAMdunk data analysis pipeline consists of 5 major steps. In the map step reads are aligned to a reference genome, and in the filter step unique alignments satisfying certain quality criteria are retained. In the snp step variants are called and excluded from further analysis. In the count step, the T to C conversion rate and the ratio of nascent RNA is determined. The allelooop step then produces summary statistics, a PCA for all samples, and several conversion rate plots (read based, UTR based, read position based).

Tobias Neumann (Zuber group at IMP), who co-developed the SLAMdunk pipeline together with Philipp Rescheneder (von Haeseler group at MFPL) explains: "Our goal for developing SLAMdunk was to provide a fully integrated data analysis pipeline that makes SLAMseq results readily accessible to bench scientists. The main challenges we had to overcome were the increased mismatch rate caused by T to C conversions and the lower sequence complexity of 3' UTRs which make it hard to place SLAMseq reads correctly on the reference genome. Combining tailored cutting-edge mapping algorithms, multimapper recovery methods and variant callers, we are now able to provide accurate and unbiased readouts of T to C conversions and nascent RNA ratios in a robust and reproducible manner."

"In collaboration with Bluebee we already offer complimentary data analysis to all QuantSeq 3'mRNA-Seq users thus providing full workflow to ensure highest quality results from the RNA-Seq experiment. Now all SLAMseq users will also have access to a secure, user-friendly and well-defined data analysis on Bluebee platform. " – Dalia Daujotyte, Head of Business Development at Lexogen.

### **About Bluebee**

Bluebee offers a global bio-informatics platform to process, analyze, share and store genomics data.

With a private cloud service, Bluebee supports users in clinical diagnostics, therapeutics and research with advanced analytics for genomic data driven medicine.

Designed for cross-functional teams of clinicians and life science researchers the Bluebee platform effectively centralizes and manages genomics data processes and storage. Bluebee's multi-layered security is designed to meet both specific organizational and regulatory data protection requirements when analyzing and storing research or clinical grade data.

Local data processing is guaranteed via "Data Residency Control" in state-of-the-art data centres. The service is available across all major European countries and US cities, as well as in Canada and Asia Pacific.

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**About Lexogen**

Lexogen is a transcriptomics and next generation sequencing company, focusing on the development of technologies for complete transcriptome sequencing. Its portfolio includes innovative molecular biology kits, software, and services for RNA-Seq.

To learn more, visit [www.lexogen.com](http://www.lexogen.com) and follow @lexogen.

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