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Revvity Signals Notebook for Molecular Biology

At a Glance

Proven with 1 million users, Signals Notebook also serves Molecular Biology

More than a million scientists in 4,000 laboratories rely on Signals Notebook as their go-to solution for scientific data tracking. Molecular biologists, find fit-for-purpose workflows and functionality that let them record, search, access, and share sequence information, all in one solution. More than a productivity tool, Signals Notebook speeds users to insight, accelerating discovery and improving decision-making. Importantly, biologists can collaborate with each other and their chemistry peers, driving innovation.

Benefits

- Captures all data and makes it accessible for researchers across the organization –and across drug discovery

- Intuitive: the user interface, workflows, visualizations, and dashboards make sense to molecular biologists and speed their adoption and acumen

- Fit-for-purpose: deep feature set for molecular biology, for recording, searching, and analyzing biological data

- Collaboration: facilitates the sharing of information and discovery of insights buried in data

- Part of Signals Research Platform: improves researchers' efficiency by providing all the software applications needed in a single platform, driving to unforeseen insights that ultimately improve the chances of bringing a novel medicine to market. *(Figure.1 example)*
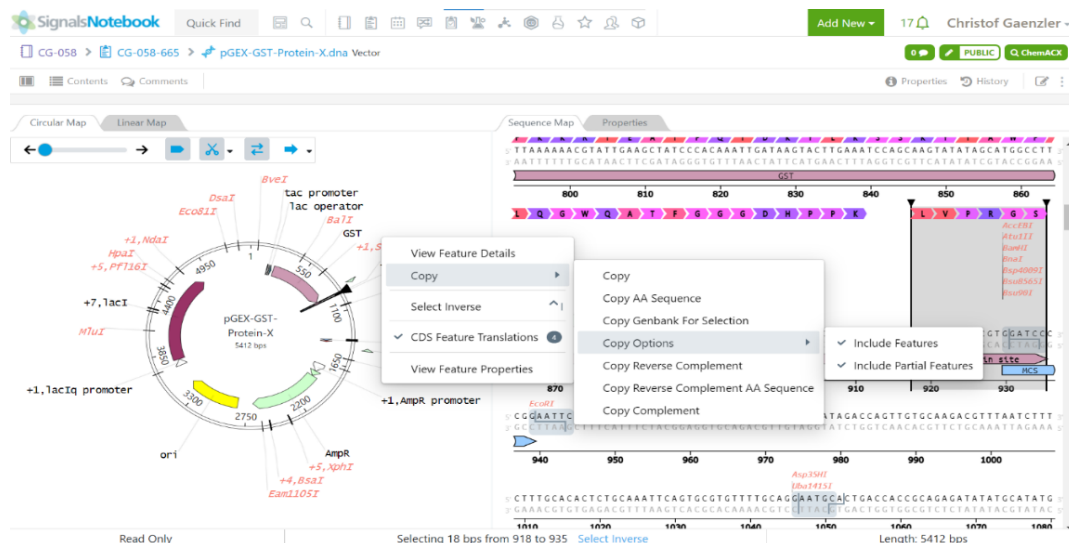
Revvity Signals Notebook lets the cell and molecular biologist work with biological sequences inside experiments while preserving the lineage of samples and assets across experiments. It deals with DNA, Plasmids, RNA, and proteins to record search and analyze biological data and pathways. *(Figure 1)*

Figure 1: Dynamic preview of a plasmid map in a Signals Notebook experiment

Molecular Biologists join ranks of Signals Notebook users to Accelerate R&D

Biologists investigating and designing a range of molecules can accelerate their R&D with Revvity Informatics' cloud-based Signals Notebook. The leading electronic laboratory notebook for chemists, Signals Notebook has crossed into biology, offering workflows and a deep feature set to increase biologists' productivity and creativity.

Signals Notebook helps molecular biologists with experimental procedures, assay planning, recording, and analysis of biological sequences and associated metadata. Sequences can be viewed in the notebook – no leaving the platform or relying on third-party software.

While Signals Notebook addresses the research needs of all scientists, special features are designed with the molecular biologist in mind:

Dynamic Preview

Biological sequence files are stored and dynamically previewed in Signals Notebook, either as circular maps or linear maps, depending on molecule type Circular maps are the default for plasmids, while linear maps are the default for non-plasmid sequences. Users can toggle between the two previews. Signals Notebook also loads and captures all associated metadata from the

sequence file and displays it in the map and the properties tab. There, the user has access to listings of features, primers, restriction sites, and ORFs. From the properties tab, the sequence can be retrieved in either GenBank, FASTA, or JSON format (as shown in *Figure 2).*

Figure 2. Retrieve different sequence file formats from the properties tab in the Dynamic Preview. Copying Sub-Sequences

Copying Sub-Sequences

An important capability is copying plasmids to the clipboard – with six options to make it easier for the molecular biologist:

- Copy Sequence as text
- Copy Complement and- Reverse Complement
- Copy Amino Acid Sequence
- Copy Reverse Complement for AA Sequence
- Copy GenBank for selection including features

Figure 3. Options to copy a component of the biological sequence

Metadata-based search

As the specifications and descriptions of biological sequences, metadata are critical to research. Search by metadata is easy in Signals Notebook. All items listed in the General, Features, and Primer headings under Properties in a dynamic view of a nucleic acid, amino acid, DNA, or plasmid sequence include metadata that can be used for searching.

For nucleic acids, DNA, and plasmids, search by sequence name, description, features such as promoter and terminator, primer names, and more.

For amino acid sequences, search by sequence name, description, and feature (if available).

Filter and sort options are available in the search; users can apply sorting by options to further refine the search results.

Analyzing scientific big data

Signals Notebook, a component of the Signals Research Suite, which includes data processing and data analytics capabilities – delivers advanced chemical and biological intelligence, layered on top of the most advanced visual analytics platform, Spotfire.

Reclaim lost scientific quality time.

Signals Notebook gives time back to molecular biologists – time that's better spent on scientific discovery than data management. Digitization of molecular biology workflows, collaboration via electronic discovery and access to broad data sets, and scientific intelligence in software solutions add up to greater efficiencies that free the molecular biologist to design more molecules.

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