GenomicKB: A knowledgebase for the human genome

TECHNOLOGY NUMBER: 2024-011

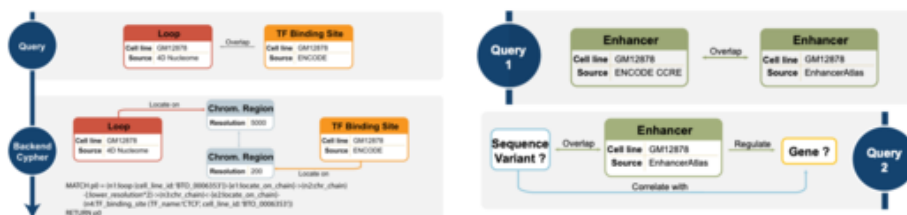**Technology ID**
2024-011

Category
Software & Content

Further information
Dr. Surin Mong
smong@umich.edu

Learn more

OVERVIEW

- Human genome graph database
- Over 347 million genomic entities, 1.36 billion relations, and 3.9 billion entity and relation properties
- Web-based query system which allows users to query the knowledge graph with customized graph patterns and specific constraints

INNOVATION

Genomic Knowledgebase (GenomicKB) is a graph database for researchers to explore and investigate human genome, epigenome, transcriptome, and 4D nucleome with simple and efficient queries. The database uses a knowledge graph to consolidate genomic datasets and annotations from over 30 consortia and portals, including 347 million genomic entities, 1.36 billion relations, and 3.9 billion entity and relation properties. GenomicKB is equipped with a web-based query system (https://gkb.dcmb.med.umich.edu/) which allows users to query the knowledge graph with customized graph patterns and specific constraints on entities and relations. Compared with traditional tabular-structured data stored in separate data portals, GenomicKB emphasizes the relations among genomic entities, intuitively connects isolated data matrices, and supports efficient queries for scientific discoveries. GenomicKB transforms complicated analysis among multiple genomic entities and relations into coding-free queries, and facilitates data-driven genomic discoveries in the future.

OTHER

LICENSING INQUIRIES: The GenomicKB data set is available for academic uses as well as commercial/non-academic use in applications, services and other use cases. The content is

available on a subscription basis and we are happy to provide a quote based on your use case and scenario. Please use the contact link above to initiate a licensing discussion providing the basic details of your intended application.

ACADEMIC RESEARCH LICENSING INQUIRIES: The GenomicKB data set is available for academic research use in applications, services and other use cases. Please note, this license is for academic research applications only and is available via a non-commercial open source license. This license is for academic or research users only. Use of this license requires authorization. Academic use requests must be made from a valid academic domain email address (.edu or equivalent) and must include a description of the nature of your study and research in the notes section of the form. Failure to provide this information will result in the denial of your request. Please complete the authorization request form that appears after selecting the "Buy" button below.

COMMERCIAL LICENSING INQUIRIES: The GenomicKB data set is available for commercial use in applications, services and other use cases. Please note, this license is for any commercial internal research or distributed applications. Use of the GenomicKB data set commercially without a license is strictly prohibited. Please use the contact link above to initiate a licensing discussion providing the basic details of your situation. We look forward to partnering with you.