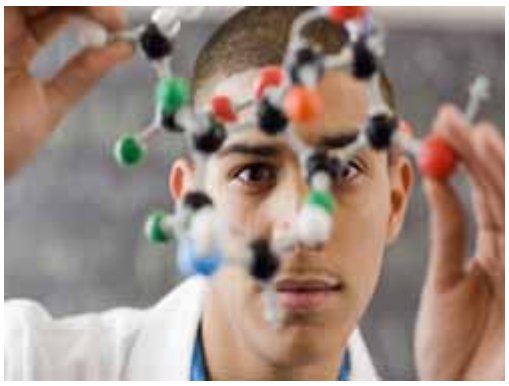
Serving Life-science Information for the Next Generation

Results in Brief

Optimised use of biomolecular information

Technological advances in the life sciences area has produced a wealth of biomolecular information ranging from genomes to proteins to molecular behaviour and interactions. Optimising access with training tools will ensure proper usage of this data for applications in medicine and nutrition, as well as in forestry, fisheries and environmental protection.

HEALTH



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To make this possible, the EU-funded project 'Serving life-science information for the next generation' (SLING) was initiated. This project's activities will support commercial and academic research in Europe and training activities will ensure optimal biomolecular data usage.

Researchers' access has been enabled to comprehensive databases and services from institutes such as the Swiss Institute of Bioinformatics (SIB), the European Patent Office (EPO) and the European Bioinformatics Institute (EBI). SLING also established a full-text article repository and a full-text patent repository (via the EPO) with over a million full-text patents. A data exchange agreement was facilitated between major repositories such as the National Center for Biotechnical Information's (NCBI) Gene Expression Omnibus and the European ArrayExpress. Two previously unconnected databases — IntAct (for

molecular interactions) and PRIDE (for mass spectrometry) — can now be accessed by researchers to associate relevant mass spectrometry data with IntAct data.

Text mining tools were developed to enhance the value of enzyme and chemical information in the BRENDA enzyme database and the Chemical Entities of Biological Interest (ChEBI) database. Pertinent open-source software and submission tools were also developed to facilitate data integration and research without licensing restrictions. Some noteworthy achievements are the development and adoption of protein-naming guidelines as well as a community-generated tool called MINSEQE for next-generation sequencing-based transcriptomics data. As a result, vast amounts of biomolecular data have been collated, annotated, organised and disseminated in Europe and internationally.

SLING funded a training programme of 33 roadshows throughout Europe that are available online as courses on the project website. In the first year alone, the online training courses were accessed by around 24 000 researchers. As a result of SLING activities, EBI web hits exceeded over 3 million per day. Project outcomes were also disseminated via the publication of papers and a text book.

The project has achieved significant progress with regard to the provision of infrastructure, methods and curatorial expertise. The state-of-the-art data and services provided by SLING will have incalculable positive implications for EU research and development in the life sciences arena.

Keywords

Biomolecular, text mining, research infrastructure, curatorial, repository, life sciences, transcriptomics, data exchange

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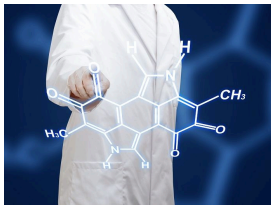

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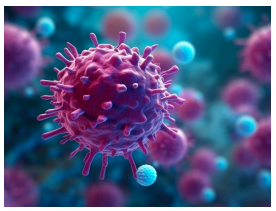

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Project Information

SLING

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Project website

Project closed

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