Strain genotyping using next-generation sequencing technology has enabled us to systematically assess whole strain ancestries on a molecular level. Genedata’s tools pinpoint production-relevant mutations and evaluate their impact on genes, pathways, and overall production phenotypes.

Benefits

- Supports R&D processes to optimize fermentation-based production of feed and food additives, beverages, personal care products, biofuels, pharmaceuticals, and agrochemicals
- Enables the efficient support of both directed and undirected strain selection processes
- Addresses scalability and workflow requirements of NGS- and omics-based strain selection programs
- Provides a single enterprise system to process, store, and analyze an unlimited number of genomes and related experimental data

Dr. Ralf Kelle
VP R&D Biotechnology
Evonik

Genedata Selector™
for Strain Development

Enterprise Software for Next-generation Sequencing Applications

Genedata Selector stores, processes, and analyzes strain-related genotype and phenotype data to support both directed and undirected strain development strategies and to optimize fermentation processes.

Genome Data Center
Organism-agnostic GeneIndex integrates public and proprietary genome data for comprehensive and easy access to experimental data in their biological context.
Genedata Selector™ analyzes and manages all strain-related data in the context of directed and undirected strain development processes – with a special focus on improving gene annotations and integrating next-generation sequencing data with other omics data to better understand biological processes and obtain optimized production strains.

Key Features

- Complete strain genealogy analysis to correlate genotype & phenotype
- Integration of public and proprietary genome sequence information
- Comprehensive analysis of all prokaryotic and eukaryotic genomes
- Automatic identification of mutations correlating with production-relevant phenotypes
- Quick identification of novel metabolic engineering targets by cross-strain comparisons
- Joint analysis of promoter, metabolic, and regulatory pathways including expression profiles and mutations
- Integration and storage of all experimental data including genomics, transcriptomics, proteomics, and metabolomics data

Architecture

- High-performance, scalable, and open enterprise software system
- Modular and configurable to address specific workflow requirements
- Agents for automated data integration and maintenance
- Xtend API for integration with database and tool infrastructure
- Underlying Oracle® database
- Client-server architecture for low maintenance and easy administration

Genedata Selector™ is part of the Genedata portfolio of advanced software solutions that serve the evolving needs of drug discovery, industrial biotechnology, and other life sciences.