



PRIORITIZE THE RIGHT DISEASE. ACCELERATE DRUG DISCOVERY.

Population-Specific Disease Prioritization
for Precision Drug Discovery



FOCUS ON HIGH-IMPACT
DISEASES. MAXIMIZE
RESEARCH ROI.



Not every disease is the right starting point for drug discovery.

We help organizations identify high-impact diseases and therapeutic opportunities using integrated genomics, clinical evidence, disease burden, and target tractability analysis.

OUR DISEASE PRIORITIZATION PLATFORM INTEGRATES



IDEAL FOR



Pharmaceutical
Companies



Biotechnology
Startups



Precision Medicine
Programs



Government
Research
Organizations



Academic
Research Groups



Venture-backed
Drug Discovery
Companies

OUR DELIVERABLES



Prioritized
Disease
Portfolio



High-confidence
Disease-Gene
Networks



Target
Identification
& Ranking



Variant &
Biomarker
Prioritization



Druggability
Assessment



Therapeutic
Opportunity
Analysis



Candidate
Selection for
In Silico Drug
Discovery



LET'S IDENTIFY THE NEXT
HIGH-POTENTIAL THERAPEUTIC
OPPORTUNITY TOGETHER.

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Scinome Consulting & Training Services, Thiruvananthapuram, Kerala, India

PHYLOGENETIC & EVOLUTIONARY GENOMICS SERVICES

REVEAL EVOLUTIONARY RELATIONSHIPS.
DECODE GENETIC VARIATION. ACCELERATE BIOLOGICAL DISCOVERY.

Scinome provides comprehensive phylogenetic and evolutionary genomics analysis to transform sequencing data into meaningful biological insights for researchers, institutes and industries.



1 MULTIPLE SEQUENCE ALIGNMENT & SEQUENCE ANALYSIS



- Multiple Sequence Alignment (MSA)
- MAFFT, MUSCLE & Clustal Omega alignments
- Alignment refinement and trimming
- Conserved region identification
- Gap analysis
- Sequence quality assessment

2 SEQUENCE CHARACTERIZATION



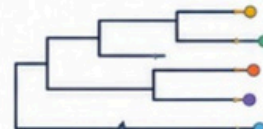
- GC content analysis
- Nucleotide composition analysis
- Sequence length analysis
- Conserved and variable site analysis
- Base frequency analysis

3 EVOLUTIONARY DISTANCE ANALYSIS

—	0.12	0.23	0.35
0.12	—	0.18	0.29
0.23	0.18	—	0.21
0.35	0.29	0.21	—

- Kimura 2-Parameter (K2P)
- p-Distance analysis
- Pairwise distance matrix
- Percentage similarity and divergence
- Evolutionary divergence estimation

4 PHYLOGENETIC TREE CONSTRUCTION



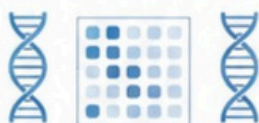
- Neighbor-Joining (NJ)
- Maximum Likelihood (ML)
- Bayesian Inference (MrBayes)
- Rooted & unrooted phylogenetic trees
- Bootstrap confidence analysis

5 EVOLUTIONARY MODEL SELECTION



- Best-fit model selection
- AIC & BIC model comparison
- Substitution model testing
- Evolutionary model optimization

6 COMPARATIVE GENOMICS



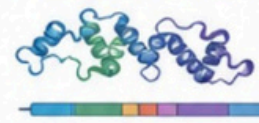
- SNP identification
- InDel detection
- Mutation profiling
- Comparative genome analysis
- Genome variation analysis

7 MOLECULAR EVOLUTION ANALYSIS



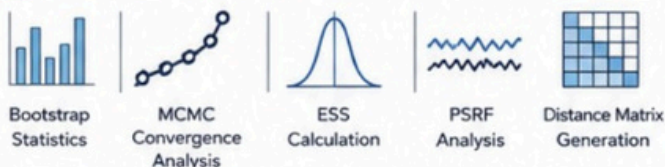
- dN/dS analysis
- Synonymous & non-synonymous mutation analysis
- Selection pressure analysis
- Codon usage bias
- Codon mutation analysis
- Evolutionary rate estimation

8 GENE & PROTEIN EVOLUTION ANALYSIS



- CDS extraction
- Gene-specific alignment
- Protein-coding gene analysis
- Functional domain mapping
- Gene conservation analysis
- Amino acid variation analysis
- Motif & conserved region analysis

9 STATISTICAL VALIDATION



APPLICATIONS

- Evolutionary Biology
- Comparative Genomics
- Population Genetics
- Pathogen Evolution & Molecular Epidemiology
- Viral and Bacterial Surveillance
- Plant & Animal Genetics
- Biodiversity and Conservation Biology
- Drug Resistance Studies
- Functional Genomics
- Molecular Ecology
- Taxonomy & Species Identification

WHY CHOOSE SCINOME?

- ✓ Publication-ready analyses and figures
- ✓ Customized workflows for your research objectives
- ✓ Support for bacterial, viral, plant, animal, fungal, microbial, and human datasets
- ✓ Expert interpretation of results
- ✓ Fast turnaround with complete technical reports
- ✓ Suitable for research projects, theses, grants, and publications



DELIVERABLES

- Publication-quality phylogenetic trees
- High-quality sequence alignments
- Distance matrices
- Evolutionary statistics
- SNP and mutation reports
- Comparative genomics reports
- Molecular evolution reports
- Publication-ready figures and tables
- Comprehensive interpretation report

PARTNER WITH SCINOME

Transform your sequencing data
into evolutionary insights.

SCINOME

OMICS ENRICHED, TRAINING REDEFINED

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