भारत सरकार GOVERNMENT OF INDIA | विज्ञान और प्रौद्योगिकी मंत्रालय MINISTRY OF SCIENCE AND TECHNOLOGY

जैवप्रौद्योगिकी विभाग
DEPARTMENT OF BIOTECHNOLOGY
सत्यमेव जयते

BRIC a DBT Organization

NII National Institute of Immunology

BRIC a DBT Organization

One Day One Genome

Ligilactobacillus salivarius

A lactic acid bacterium with promising probiotic potential known for its antimicrobial activity and immunomodulatory effects

Isolation

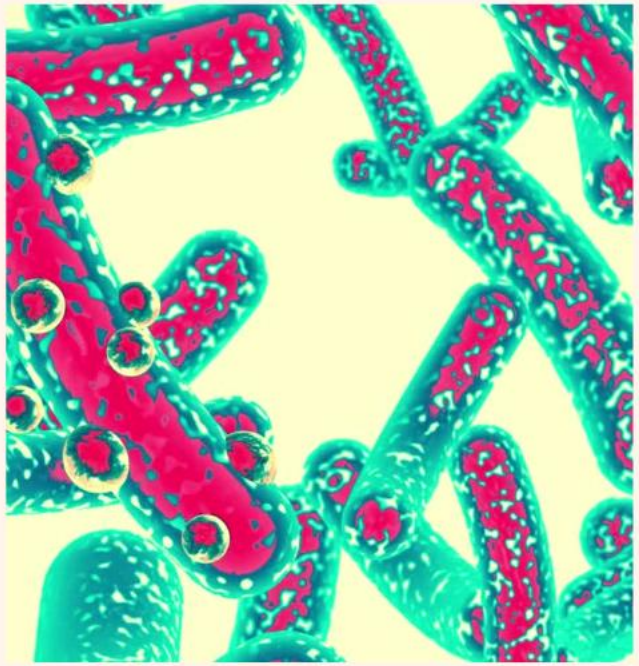
A bacterial isolate from the gut microbiota of laboratory mice (C57BL/6J mice)

Insights

High-throughput sequencing reveals genes linked to nutrient metabolism and antimicrobial resistance

Application

Insight into the role of gut microbiota in host health especially their therapeutic potential against infections



***Ligilactobacillus salivarius* (C57BL6J)** **Genome Accession Number: INS0010333**

Quality of Genome Assembly and Annotation:

Results from indigenously developed **BHARAT** analysis pipeline: (**B**acterial **H**ybrid genome **A**ssembly and **R**apid **A**nnotation **T**oolset)

Table 1: Assembly Details	
Contigs	41
GC Content	32.74
Contig L50	4
Genome length	1,936,431 bp
Contig N50	119,833

Table 2: Annotated Genome Features	
CDS	1,902
tRNA	44
Repeat Regions	21
rRNA	4

Subsystem Analysis

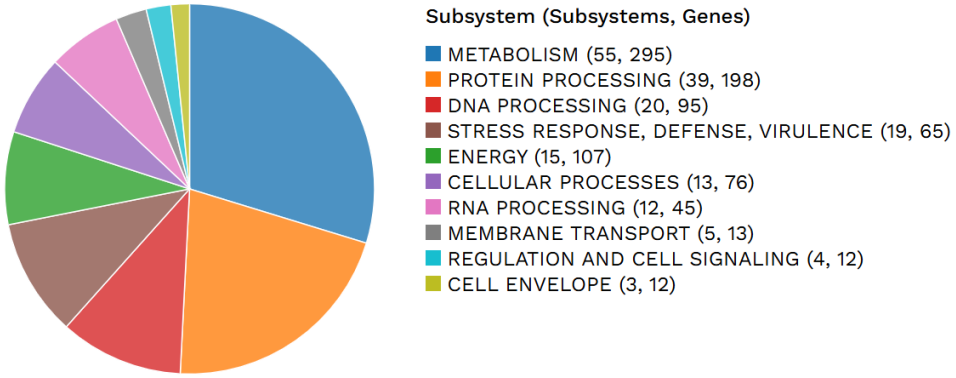


Table 3: Antimicrobial Resistance Genes	
AMR Mechanism	**Genes**
Antibiotic target in susceptible species	Alr, Ddl, EF-G, EF-Tu, folA, Dfr, gyrA, gyrB, inhA, fabI, Iso-tRNA, kasA, MurA, rho, rpoB, rpoC, S10p, S12p
Antibiotic target modifying enzyme	RlmA(II)
Antibiotic target replacement protein	FabK
Gene conferring resistance via absence	gidB
Protein altering cell wall charge conferring antibiotic resistance	MprF, PgsA

Genome Assembly