One Day One Genome

Janibacter hoylei (MCC 1001) Accession number: ALWX01000000

The genome of *Janibacter hoylei* supports biotech innovations for extreme environments, aiding industries like aerospace and harsh-environment manufacturing

Insights from *J. hoylei's* resilience drive advancements in astrobiology and inspire new, durable technologies for Indian industries

Unlocking Extreme Potential: From Space to Earth's Toughest Challenges!

Organism name	Genome Accession number	Culture type	Isolated from	Pathogenicity	Genome Size	No. of Genes	Pathogenic genes	Importance
Janibacter hoylei (MCC 1001)	ALWX01000000	Gram-positive, non-motile, non-endospore-forming cocci	Stratospheric air samples	Non pathogenic	3,139,099 base pair	3,322	GdpD, PgsA	Microbial adaptations of stress

Janibacter hoylei MCC 1001

- *Janibacter hoylei* a bacterium isolated from stratospheric air can survive under extreme environmental conditions like low temperatures, high radiation, and limited nutrients.
- Its genome encodes proteins that degrade complex organic compounds and DNA repair enzymes.
- This bacterium could be useful in industries that operate in extreme environments.

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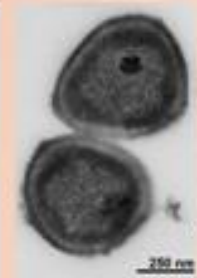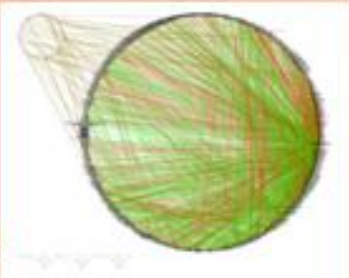
Quality of Genome Assembly and Annotation:
Results from indigenously developed **BHARAT** analysis pipeline:
(**B**acterial **H**ybrid genome **A**ssembly and **R**apid **A**nnotation **T**oolset)

Table 1. Assembly Details	
Contigs	122
GC Content	71.32
Plasmids	0
Contig L50	18
Genome Length	3,139,099 bp
Contig N50	46,915
Chromosomes	0

Table 2. Annotated Genome Features	
CDS	3,322
tRNA	49
rRNA	6
Partial CDS	0
Miscellaneous RNA	0
Repeat Regions	0
Job ID	annotation_1941902

Subsystem (Subsystems, Genes)

- METABOLISM (73, 508)
- PROTEIN PROCESSING (42, 218)
- STRESS RESPONSE, DEFENSE, VIRULENCE (25, 102)
- ENERGY (25, 253)
- DNA PROCESSING (17, 91)
- CELLULAR PROCESSES (12, 45)
- MEMBRANE TRANSPORT (9, 30)
- RNA PROCESSING (9, 35)
- MISCELLANEOUS (4, 5)
- CELL ENVELOPE (4, 11)
- REGULATION AND CELL SIGNALING (3, 10)