



Government of India
Ministry of Science & Technology
Department of Biotechnology

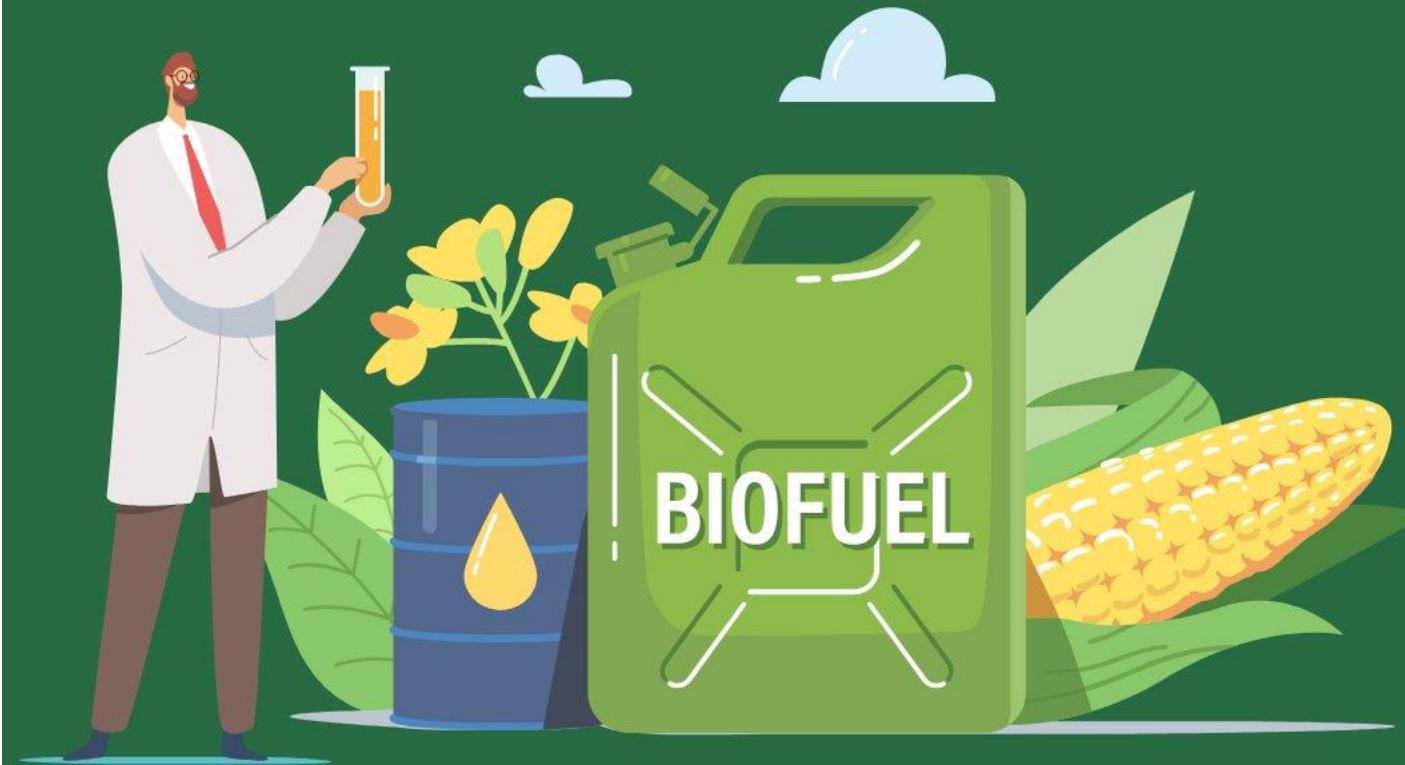
सत्यमेव जयते



One Day One Genome

Asticcacaulis sp

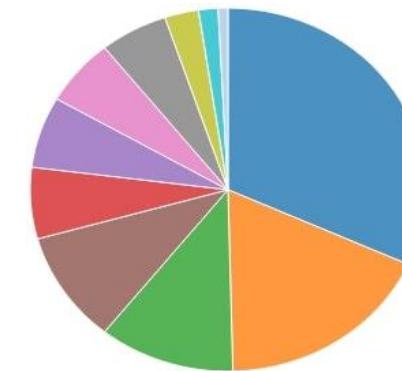
Produces key enzymes to break down plant biomass and agricultural waste for **Biofuel production**



Quality of Genome Assembly and Annotation:Results from indigenously developed **BHARAT** analysis pipeline: (**Bacterial Hybrid genome Assembly and Rapid Annotation Toolset**)**Subsystem Analysis**

Table 1: Assembly Details	
Contigs	66
GC Content	60.42
Contig L50	4
Genome length	4,571,702 bp
Contig N50	439,803

Table 2: Annotated Genome Features	
CDS	4,249
tRNA	47
Repeat Regions	0
rRNA	3



Subsystem (Subsystems, Genes)
METABOLISM (80, 544)
PROTEIN PROCESSING (45, 226)
ENERGY (28, 217)
STRESS RESPONSE, DEFENSE, VIRULENCE (25, 98)
CELLULAR PROCESSES (16, 149)
MEMBRANE TRANSPORT (16, 139)
DNA PROCESSING (15, 80)
RNA PROCESSING (14, 64)
CELL ENVELOPE (7, 34)
MISCELLANEOUS (4, 8)
REGULATION AND CELL SIGNALING (2, 7)

Table 3: Antimicrobial Resistance Genes

AMR Mechanism	Genes
Antibiotic target in susceptible species	Alr, Ddl, dxr, EF-G, EF-Tu, folA, Dfr, folP, gyrA, gyrB, inhA, fabI, Iso-tRNA, kasA, MurA, rho, rpoB, rpoC, S10p, S12p
Efflux pump conferring antibiotic resistance	EmrAB-OMF, EmrAB-TolC
Gene conferring resistance via absence	gidB
Protein altering cell wall charge conferring antibiotic resistance	PgsA
Regulator modulating expression of antibiotic resistance genes	OxyR
Protein modulating permeability to antibiotic	OprB family

Genome Assembly