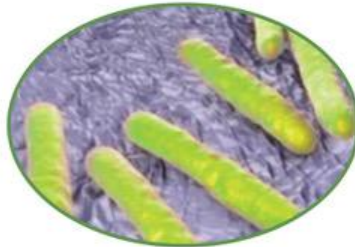


#OneDayOneGenomeInitiative

Today's Genome: *Mycobacterium tuberculosis* (Mtb) S7



causes TB in humans



Isolated from a pulmonary tuberculosis patient in Tripura, India (*Mtb* S7)

Useful information about *Mtb* S7



Resistant to two drugs, Isoniazid and Clofazimine

Uses

- Analysing the genetic make-up of *Mtb* S7 strain will help in understanding why certain strains of Tb bacteria develop resistance against certain drugs.
- Studying such unique strains helps in developing effective treatments against tuberculosis disease in India

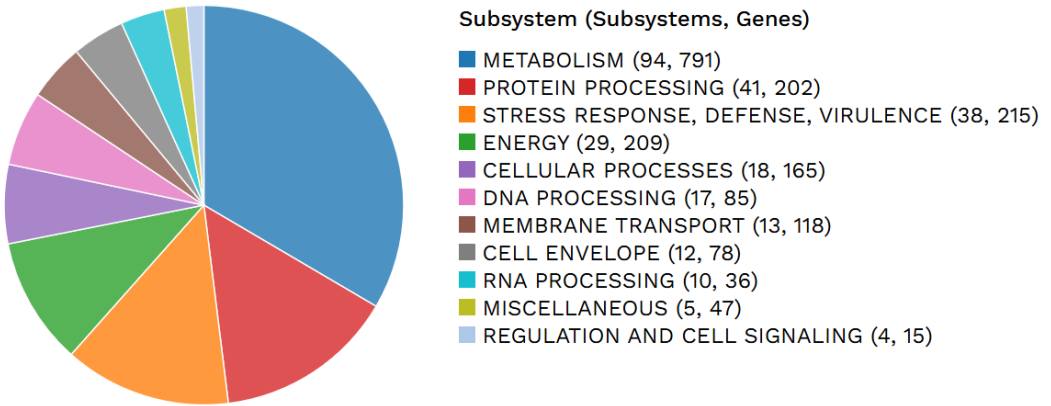
Quality of Genome Assembly and Annotation:
Results from indigenously developed **BHARAT** analysis pipeline:
(**B**acterial **H**ybrid genome **A**ssembly and **R**apid **A**nnotation **T**oolset)

Table 1: Assembly Details	
Contigs	68
GC Content	65.59
Contig L50	9
Genome length	4,368,139 bp
Contig N50	204,734

Table 2: Annotated Genome Features	
CDS	4,225
tRNA	45
Repeat Regions	41
rRNA	3

Table 3: Antimicrobial Resistance Genes	
AMR Mechanism	Genes
Antibiotic target in susceptible species	Alr, Ddl, dxr, EF-G, EF-Tu, EmbA, EmbB, EmbC, folA, Dfr, folP, gyrA, gyrB, inhA, fabI, Iso-tRNA, kasA, MurA, rho, rpoB, rpoC, S10p, S12p
Efflux pump conferring antibiotic resistance	MmpL5, MmpL7, MmpS5, Rv1258c, Rv1634, Rv1747, Rv1877, Rv2333c, Rv2994, Rv3239c
Protein altering cell wall charge conferring antibiotic resistance	GdpD, PgsA
Antibiotic inactivation enzyme	AAC(2')-I
Regulator modulating expression of antibiotic resistance genes	ArsR family, EmbR, EthR, LpqB, MarR, MarR family, MtrA, MtrB, OxyR, WhiB7

Subsystem Analysis



Genome Assembly

