



Government of India
Ministry of Science & Technology
Department of Biotechnology



ONE DAY ONE GENOME

Escherichia coli



Helps in improved
diagnostics,
treatment options,
and infection control
strategies.

Escherichia coli

Genome Accession Number: INS0017625

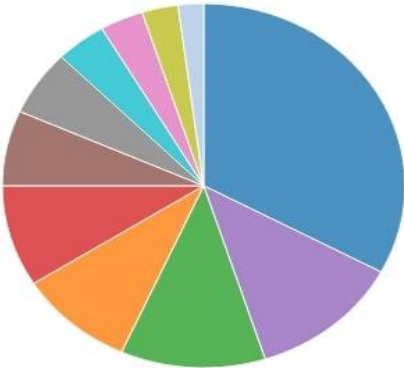
Quality of Genome Assembly and Annotation:

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

Table 1: Assembly Details	
Contigs	248
GC Content	50.36
Contig L50	22
Genome length	4,898,023 bp
Contig N50	59,341

Table 2: Annotated Genome Features	
CDS	4,972
tRNA	81
Repeat Regions	0
rRNA	4

Subsystem Analysis



Subsystem (Subsystems, Genes)	
METABOLISM	(113, 929)
PROTEIN PROCESSING	(42, 163)
STRESS RESPONSE, DEFENSE, VIRULENCE	(40, 181)
ENERGY	(32, 300)
MEMBRANE TRANSPORT	(31, 180)
CELLULAR PROCESSES	(23, 156)
DNA PROCESSING	(20, 105)
RNA PROCESSING	(14, 77)
CELL ENVELOPE	(12, 113)
MISCELLANEOUS	(10, 102)
REGULATION AND CELL SIGNALING	(7, 47)

Table 3: Antimicrobial Resistance Genes	
AMR Mechanism	Genes
Antibiotic inactivation enzyme	BlaEC family, CTX-M family
Antibiotic target in susceptible species	Alr, Ddl, dxr, EF-Tu, folA, Dfr, folP, gyrA, gyrB, inhA, fabI, Iso-tRNA, kasA, MurA, rho, rpoB, rpoC, S10p, S12p
Efflux pump conferring antibiotic resistance	AcrAB-TolC, AcrAD-TolC, AcrEF-TolC , AcrZ, EmrAB-TolC, EmrD, EmrE, EmrKY-TolC, MacA, MacB, MdfA/Cmr, MdtABC-TolC, MdtEF-TolC, MdtL, MdtM, SugE, TolC/OpmH
Antibiotic target modifying enzyme	Erm(B)
Protein altering cell wall charge conferring antibiotic resistance	GdpD, PgsA,
Regulator modulating expression of antibiotic resistance genes	AcrAB-TolC, EmrAB-TolC, GadE, H-NS, OxyR

Genome Assembly

