



जैवप्रौद्योगिकी विभाग
DEPARTMENT OF
BIOTECHNOLOGY

#OneDayOneGenomeInitiative



CDFD
innovating to benefit society

Escherichia coli (ODFD_ODOG_Ecoli_1)

Insight

Revealing factors
contributing to
UTI pathogenicity

Genomics

Sequencing *E. coli*
to understand its
genetic makeup

Isolation

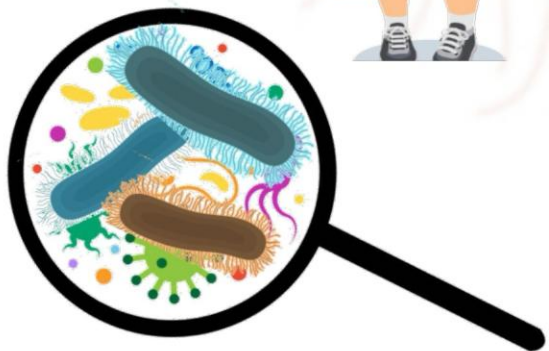
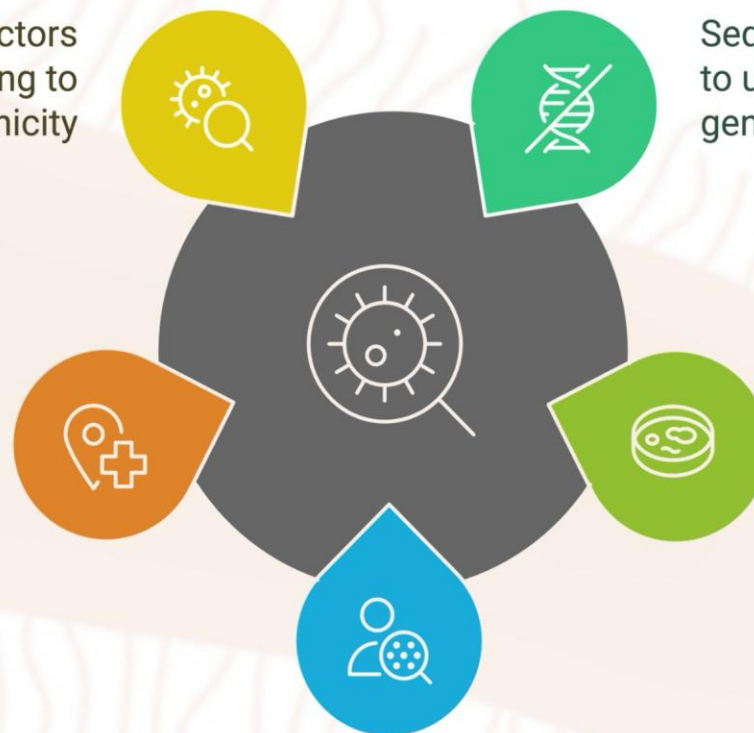
Isolating the bacteria
from a UTI patient's
blood

Clinical Research

Linking the bacterial
isolate to UTI pathology

Translation

Identifying therapeutic
targets and resistance
markers



<https://www.nibmg.ac.in/p/one-day-one-genome>



INDA
Indian Nucleotide Data Archive

INS0009876

Table 1: Assembly Details		Table 2: Annotated Genome Features	
Contigs	201	CDS	5,531
GC Content	50.46	tRNA	83
Contig L50	16	rRNA	5
Genome length	5,464,381 bp	Repeat Regions	16
Contig N50	101,578		

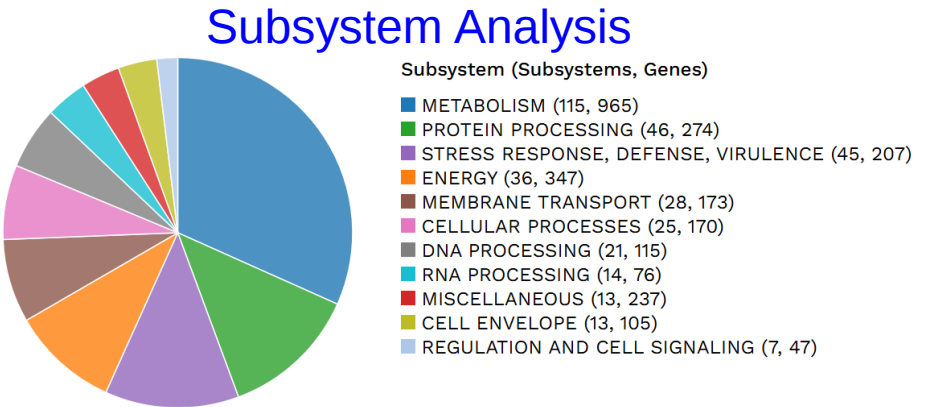


Table 3: Antimicrobial Resistance Genes	
AMR Mechanism	Genes
Antibiotic inactivation enzyme	APH(3'')-I, APH(6)-Ic/APH(6)-Id, BlaEC family, CatB family, CTX-M family, Mph(A) family, NDM family, OXA-1 family, TEM family
Antibiotic resistance gene cluster, cassette, or operon	MarA, MarB, MarR
Antibiotic 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	AcrAB-TolC, AcrAD-TolC, AcrEF-TolC , AcrZ, EmrAB-TolC, EmrD, EmrE, EmrKY-TolC, MacA, MacB, MdfA/Cmr, MdtABC-TolC, MdtEF-TolC, MdtL, MexAB-OprM, QacE, SugE, Tet(A), TolC/OpmH
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

