



# #OneDayOneGenomeInitiative

## *Escherichia coli* (ODFD\_ODOG\_Ecoli\_1)



### Insight

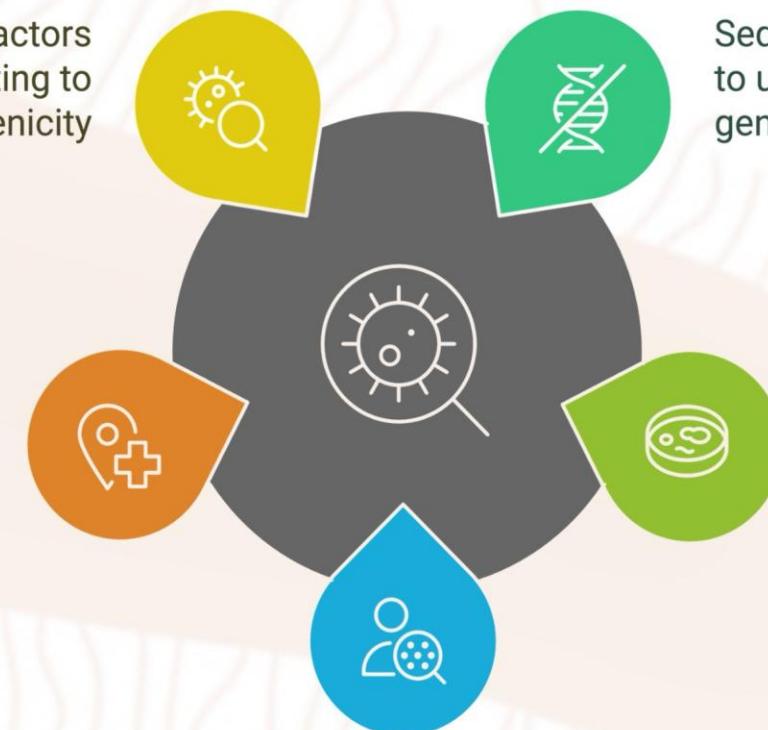
Revealing factors contributing to UTI pathogenicity

### Translation

Identifying therapeutic targets and resistance markers

### 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



INDIA  
Indian Nucleotide Data Archive

INS0009876



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

# *Escherichia coli* (ODFD\_ODOG\_Ecoli\_1)

Genome Accession Number: INS0009876

## Quality of Genome Assembly and Annotation:

Results from indigenously developed **BHARAT** analysis pipeline: (Bacterial Hybrid genome Assembly and Rapid Annotation Toolset)

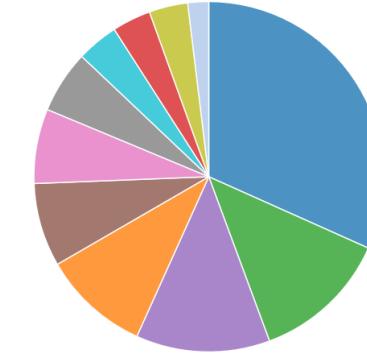
Table 1: Assembly Details

Contigs	201
GC Content	50.46
Contig L50	16
Genome length	5,464,381 bp
Contig N50	101,578

Table 2: Annotated Genome Features

CDS	5,531
tRNA	83
rRNA	5
Repeat Regions	16

## Subsystem Analysis



Subsystem (Subsystems, Genes)
METABOLISM (115, 965)
PROTEIN PROCESSING (46, 274)
STRESS RESPONSE, DEFENSE, VIRULENCE (45, 207)
ENERGY (36, 347)
MEMBRANE TRANSPORT (28, 173)
CELLULAR PROCESSES (25, 170)
DNA PROCESSING (21, 115)
RNA PROCESSING (14, 76)
MISCELLANEOUS (13, 237)
CELL ENVELOPE (13, 105)
REGULATION AND CELL SIGNALING (7, 47)

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

