



ATG Bioinfo 3



Research project in Applied Bioinformatics

Duration: 6 months

Theme: Applied Bioinformatics for molecular diagnostics

Course coordinator: Devendra Lingojar, Director, ATG Lab

Course content for six months project

A. Applied Bioinformatics

1. Introduction to NCBI database gene / genome – whole and partial sequences
2. Sequence selection and edition for our studies
3. Primer designing :manual and by software
4. Primer order and receipt
5. Working with new set of primers: Calculation and dilution upto picomoles

B. Biotechnology protocols

6. DNA extraction by DNazol method
7. Optimization and standardization of PCR conditions: Primers conc., dNTPs, Taq Polymerase, MgCl₂ etc.
8. Gradient calculation and gradient PCR for standardization of cycling conditions
9. Scale up PCR (post gradient PCR)
10. Sample preparation for DNA sequencing studies

C. Applied Bioinformatics

11. DNA sequence data interpretation and data curation
12. BLAST, BLAST2, Reverse complement, BLAST tree, Phylogeny by MEGA 4.1

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For more details, visit our lab or contact us

DEVENDRA LINGOJAR

Director, ATG LAB

16, Apurva Complex, Pune University Road, Aundh,
Pune 411007, Mobile +91 9921446321

Email atgbioinfo@gmail.com

<http://www.atgbitech.com>

