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FACULTY OF ENGINEERING & TECHNOLOGY
DEPARTMENT OF BIOTECHNOLOGY

Tryptophan Operon:

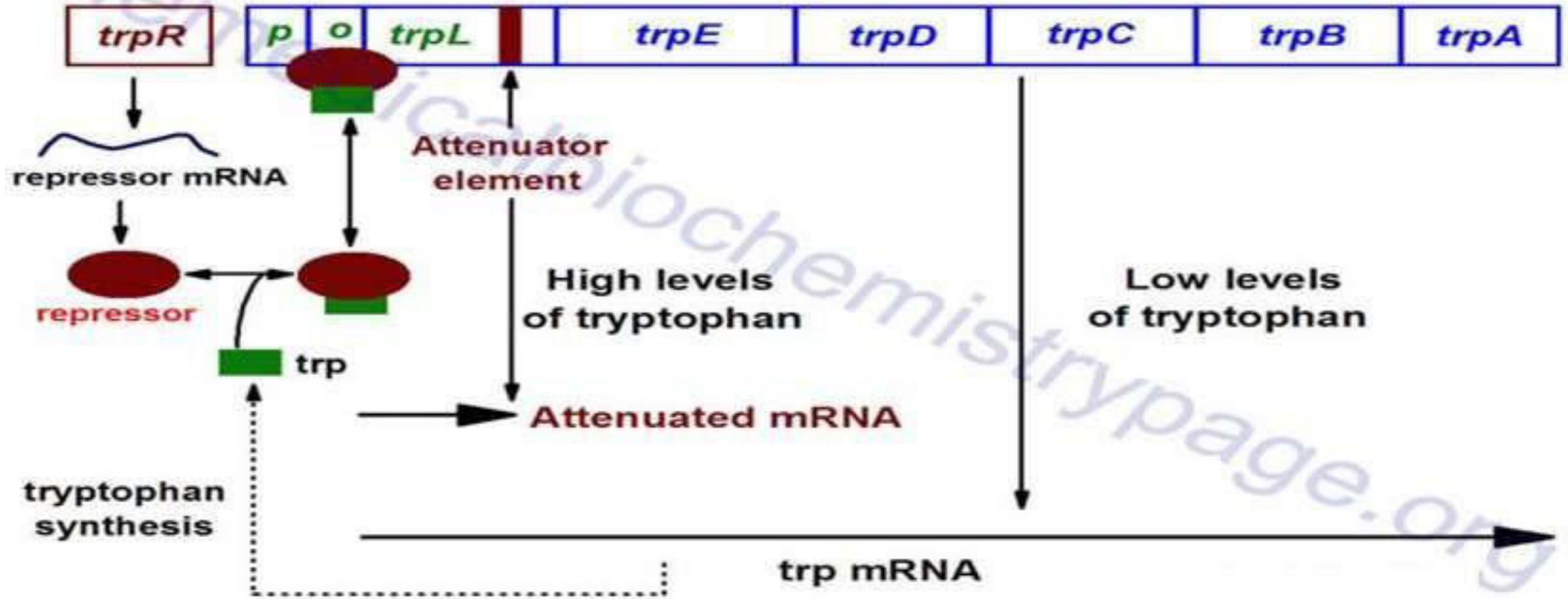
- Discovered in 1953 by Jacques Monod and colleagues, the trp operon in *E. coli* was the first repressible operon to be discovered.

This operon contains five structural genes:

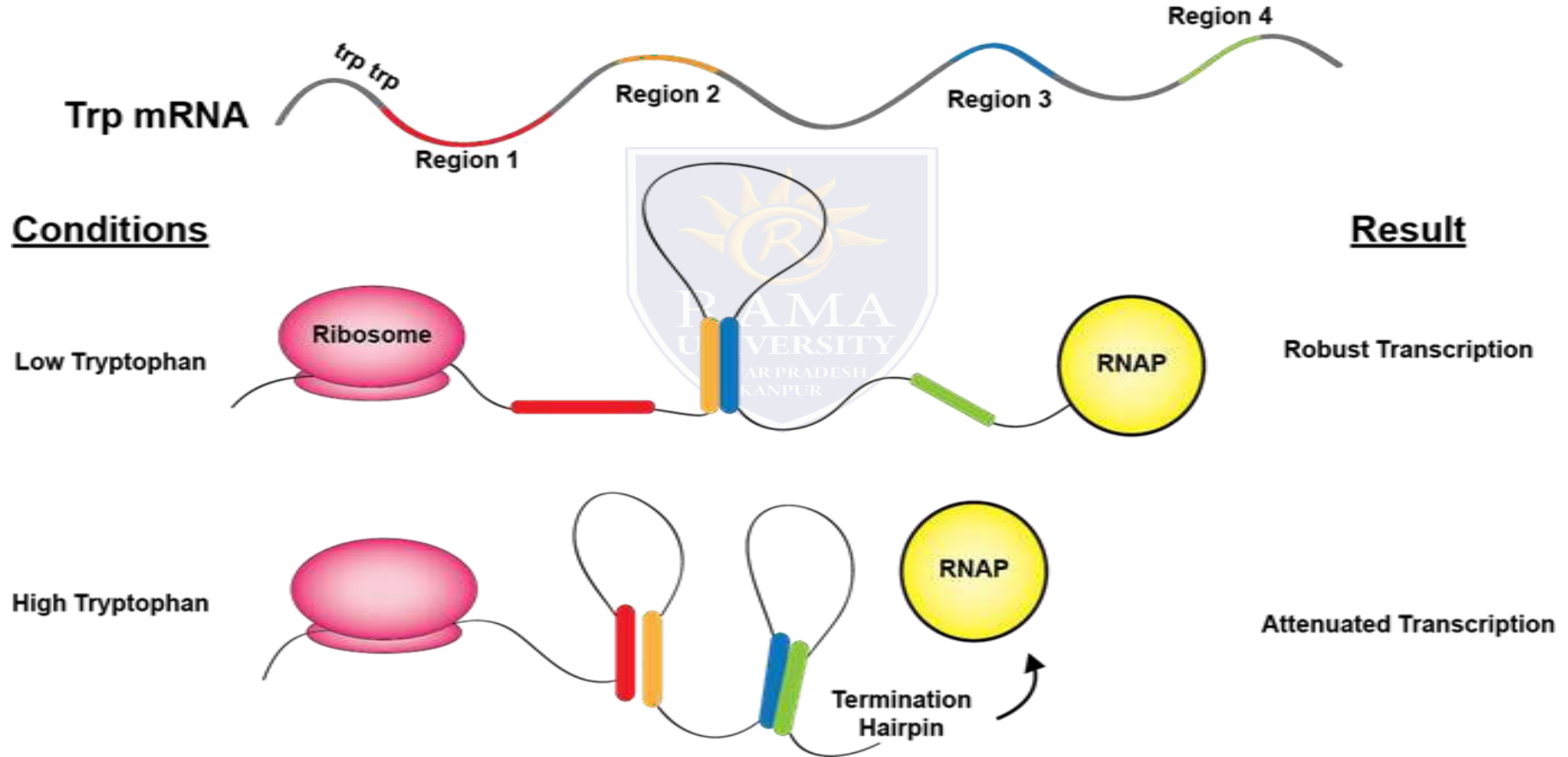
- trp E,
- trp D,
- trp C,
- trp B, and
- trp A, which encodes tryptophan synthetase.
- It also contains a promoter which binds to RNA polymerase and an operator which
- blocks transcription when bound to the protein synthesized by the repressor gene (trp R) that binds to the operator



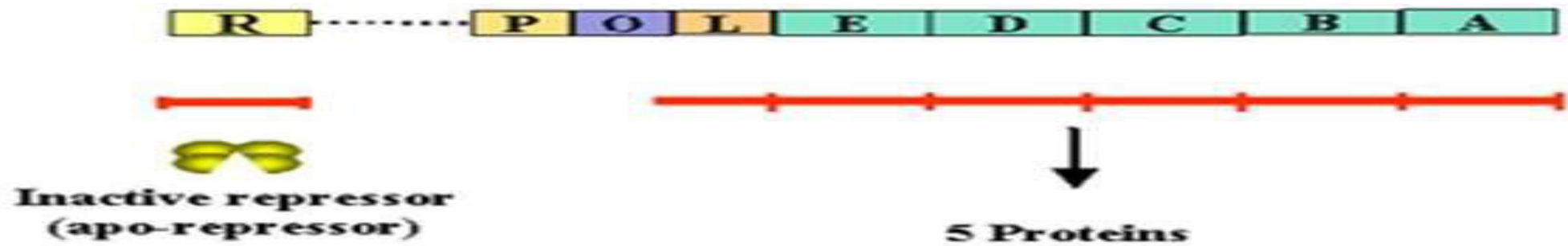
Structure of the *trp* Operon



Amount of trp operon affect transcription



Absence of Tryptophan



Presence of Tryptophan

