

Solutions to Central Dogma Problems

Prokaryotic Gene (β -galactosidase)

- a) 5' AAUUGUGAGC.....3'
- b) H_3N^+ -met-ser-his-arg-lys-... COO^- OR M-S-H-R-K
- c) No, because it is read out of frame; it is read as: CUA, AGA
- d) H_3N^+ -met-ser-thr-gly-asn-..... COO^- or M-S-T-G-N
- e) H_3N^+ -met-ser-his-lys-glu-... COO^- or M-S-H-K-Q
- f) No change, silent mutation
- g) Delete 1 or add 2 after AUG and before the TAA (and do not make another in-frame stop).
- h) UGG (trp) ----> UGA (stop)
- i) AGG (arg) ----> GGG (gly)
- j) AGG (arg) ----> AGA (arg)

Eukaryotic Gene (*con-6*)

The structure of *con-6* is shown below (numbers as in the genomic sequence).

