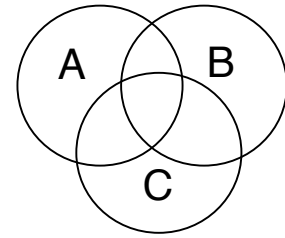


VENN DIAGRAM: STEPS IN PROTEIN SYNTHESIS



A only:

requires RNA polymerase
requires DNA
uses the gene's template strand
occurs in the nucleoid region of prokaryotic cells
produces primary transcript

common to A and B only:

product is RNA molecule
occurs in nucleus of eukaryotic cells

B only:

adds 5' cap
produces mRNA
removes introns
adds poly A tail

C only:

begins with "start codon"
occurs in the cytoplasm
requires tRNAs
requires the ribosome
produces polypeptide
requires amino acids

not A, B or C

uses the gene's coding strand

common to B and C only:

common to A, B and C:

a step in protein synthesis in eukaryotes

common to A and C only:

a step in protein synthesis in prokaryotic cells
involves pairing of complementary bases (template strand with RNA nucleotides in transcription and codon with anticodon in translation)