

The diagram illustrates four types of mutations: silent, missense, nonsense, and frameshift. Each row shows a sequence of codons (represented by colored blocks) and the resulting amino acid sequence (represented by colored blocks).

- Silent mutation:** A single nucleotide change in a codon that does not change the amino acid.
- Missense mutation:** A single nucleotide change in a codon that changes the amino acid.
- Nonsense mutation:** A single nucleotide change in a codon that changes the amino acid to a stop codon.
- Frameshift mutation:** A single nucleotide change in a codon that shifts the reading frame, changing all subsequent amino acids.

