Lecture 2
Advanced physiological genetics

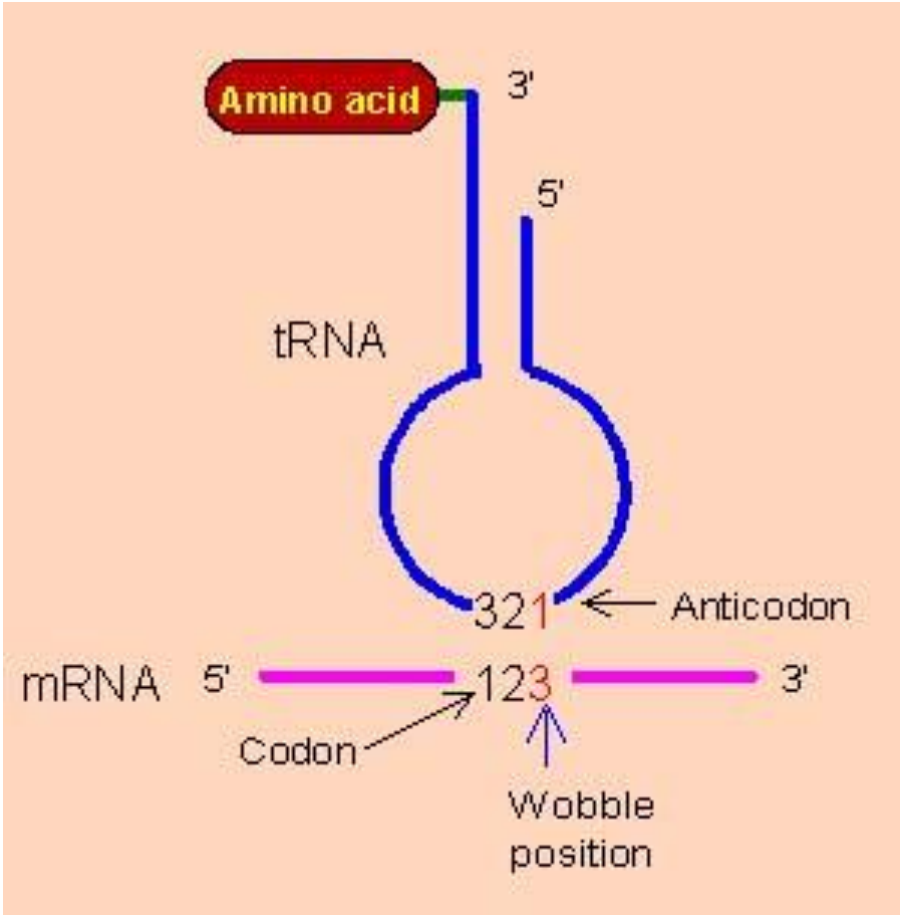
Protein synthesis

- Aspects of protein synthesis
- Mechanism of protein synthesis (Prokaryotic)
- Initiation in eukaryotes
- Translational control and post-translational events

Some highly purified tRNA molecules were found to interact with more than one codon, and this ability is correlated with the presence of modified nucleosides in the 5'-anticodon position, particularly inosine (formed by post-transcriptional processing of adenosine by anticodon deaminase)

Wobble

To explain the redundancy of the genetic code. 18 aa are encoded by more than one triplet codons which usually differ at 5'-anticodin base



5'-anticodon base is able to undergo more movement than the other two bases and can thus form non-standard base pairs as long as the distances between the ribose units are close to normal.

Ribosome binding site
(Shine-Dalgarno sequence)

- **Solely for prokaryotic translation**
- **A purine-rich sequence usually containing all or part of the sequence 5'-AGGAGGU-3'**
- **Upstream of the initiation codon in prokaryotic mRNA**
- **To position the ribosome for initiation of protein synthesis**

Shine-Delgarno element