

Eukaryotic Translation

Drugs

- Chemically modifies (depurinates) the 28s rRNA at a tetranucleotide loop (GAGA) followed by cleavage of the depurinated region
- The castor beans that produce it are not affected, because it is passed into the ER and is never in contact with the inside of the cell
- Ricin is **extremely toxic**
- Cycloheximide** blocks translocation
- Diphtheria toxin** ADP-ribosylates one of the elongation factors on a histidyl derivative

Introduction

- Eukaryotic ribosomes are larger
- Both, however, also contain protein

Ribosome binding

- Ribosome binds to the 5' cap and scans down the message until it reaches the first AUG
- Then, already containing the initiator tRNA, scans along the message until it reaches the first AUG
- Has to do this because no RBS is available in eukaryotes
- This means that the message cannot be polycistronic
- In prokaryotic mRNA, each ORF is preceded by a ribosome binding site
- Transcription begins with methionine again, and involves a special initiator tRNA (Met-tRNA), but the methionine is not formylated
- Involves many more factors

Termination

- A single release factor (eRF) recognises all three stop codons