

Key Differences Between Eukaryotes and Prokaryotes

	Prokaryotes	Eukaryotes
Membrane & Overall Process	<ul style="list-style-type: none"> - No nuclear membrane - Coupled transcription-translation - RNA polymerase II 	<ul style="list-style-type: none"> - Have nuclear membrane - Transcription occurs first in the nucleus - Translation occurs second in the cytoplasm.
Introns	No introns	Have introns
mRNA Recognition	Ribosomes recognize the Shine-Dalgarno Sequence as the start of the mRNA transcript. (purine rich sequence)	Ribosomes recognize the 5' cap placed on the mRNA.
Ribosomes	Small ribosomes comparatively.	Large ribosomes comparatively.
Control Mechanisms	Operons	<ul style="list-style-type: none"> - Transcriptional <ul style="list-style-type: none"> o Presence of transcription factors - Post-transcriptional - Translational <ul style="list-style-type: none"> o Ribosomal recruitment o Self degradation of mRNA - Post-translational
Genome	Genome is a circular chromosome.	Genome is organized into many chromosomes.

