

Different types of RNA

	Full name	Type/Function	Notes
nhRNA	Nuclear heterologous RNA	Exact transcript of a gene including exons and introns (pre-mRNA)	Processed during transcription
mRNA	Messenger RNA	Mature coding RNA including only exons with 5' cap and polyA-tail	Only correct and mature mRNA can leave the nucleus
rRNA	Ribosomal RNA	Ribonucleotide subunits of ribosomes	Produced in nucleolus
tRNA	Transfer RNA	RNA adaptor molecule (~80-90 bases) that allows the ribosome to insert the correct AA for a codon	There are many tRNA genes in the nucleus and 22 in mitochondria
snRNA	Small nuclear RNA	Small (~150bp), U-rich RNA involved in splicing, TF regulation and telomere maintenance	Form small nuclear ribonucleoproteins or snRNP
snoRNA	Small nucleolar RNA	Small RNA involved biogenesis of rRNA, tRNA and snRNA	A type of «guide RNA»
scRNA	Small cytoplasmic RNA	RNA component of Signal Recognition Particle ribonucleoprotein complex required for trafficking of proteins (e.g. secretion)	
lncRNA	Long noncoding RNA	RNA sequences (>200b) with characteristics similar to mRNA but that do not code for proteins	May have a role in regulating transcription and maturation of coding mRNA
siRNA	Small interfering RNA (Silencing RNA)	20-24bp dsRNA fragment produced by Dicer enzyme from longer RNA. Serves to degrade mRNA /silence its translation. Exogenous siRNA can also be transfected into cells	Produced as longer dsRNA in the nucleus. Part of RNA interference (RNAi) pathway.
miRNA	MicroRNA	Similar do SiRNA but derived by Dicer from a shorter hairpin RNA. Serves to degrade RNA /silence its translation	Produced as an RNA hairpin in the nucleus.
piRNA	Piwi-interacting RNA	Abundant type of 26-31 b RNA that forms ribonucleoprotein complexes with piwi-subfamily Argonaut proteins. Involved in epigenetic silencing and post-transcriptional regulation of transposons.	