

miRNA tool cheat sheet

Free online resources for microRNA research, sorted by the question they answer



All tools are free to use. Links checked: October 2026.

Most target predictions differ between tools, so compare at least two and check experimentally validated interactions before planning lab work.

TOOL	WHAT IT DOES	SPECIES	LINK
Which genes does my miRNA regulate?			
miRDB	Predicted targets and functional annotations from the machine-learning tool MirTarget	human, mouse, rat, dog, chicken	mirdb.org
miRmap	Ranks predicted targets by repression strength	several species	mirmap.ezlab.org
RNAhybrid	Energetically most favorable binding sites of a small RNA in a long target RNA	any sequence	bibiserv.cebitec.uni-bielefeld.de/rnahybrid
StarMir	Binding-site prediction trained on CLIP data, including target structure	several species	sfold.wadsworth.org
Which interactions have been shown experimentally?			
DIANA-TarBase	Reference collection of experimentally supported miRNA–target interactions	many species	dianalab.e-ce.uth.gr
miRTargetLink 2.0	Validated and predicted interactions as interactive networks; search by miRNA, gene or pathway	human, mouse, rat	ccb-compute.cs.uni-saarland.de/mirtargetlink2
Which pathways are affected?			
DIANA-mirPath	Links predicted or validated targets of one or more miRNAs to pathways	human, mouse and others	dianalab.e-ce.uth.gr
What is the sequence and official name of my miRNA?			
miRBase	Reference database of miRNA sequences and annotation; search by name, keyword or sequence	all species	www.mirbase.org
miRBase Tracker	Tracks how miRNA names and annotations changed between miRBase versions	all species	www.mirbasetracker.org
In which tissue is my miRNA expressed?			
Human miRNA Tissue Atlas	Tissue distribution and tissue specificity of human miRNAs	human	ccb-web.cs.uni-saarland.de/tissueatlas2
DIANA-miTED	Expression atlas from more than 15,000 small RNA-Seq samples (SRA, TCGA): 199 tissues, 267 cell lines, 261 diseases	human	dianalab.e-ce.uth.gr/mited
FANTOM5 miRNA atlas	miRNA expression across human primary cell types, cell lines and tissues, including candidate novel miRNAs	human	fantom.gsc.riken.jp/5/suppl/D_e_Rie_et_al_2017
miR-Blood	miRNA expression in sorted peripheral blood cell types and blood fractions; shows whether a circulating miRNA may come from blood cells	human	mir-blood.com
RATEmiRs	Rat miRNA sequencing data across tissues; finds tissue-specific and tissue-enriched miRNAs	rat	https://manticore.niehs.nih.gov/ratemirs/
Is my miRNA linked to cancer or other diseases?			
MalaCards	Human disease database with associated genes	human	www.malacards.org
GeneCards	Integrated information on all human genes from about 125 sources	human	www.genecards.org
I have small RNA sequencing data.			
miRDeep2	Identifies known and novel miRNAs in small RNA sequencing reads (command line)	any species	github.com/rajewsky-lab/mirdeep2
I want to plot or compare my results.			
ClustVis	Upload a table and create PCA plots and heatmaps	–	biit.cs.ut.ee/clustvis
Venny	Compare up to four lists with Venn diagrams	–	bioinfo.gp.cnb.csic.es/tools/venny

From database search to validated result

Databases tell you what is known. Your own samples tell you what matters for your study. TAmiRNA measures microRNAs in plasma, serum, tissue and extracellular vesicles by small RNA sequencing or qPCR, with miND spike-in controls and analysis by our miND pipeline.

Talk to our scientists: www.tamirna.com/contact · [office@tamirna.com]