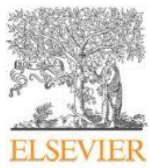


TCGA中miRNA神操作

John Bee文献无限好，Low Bee文献快乐多。但是Low Bee文献的快乐的到底在哪里呢？我们继续来讲讲看上次那篇1.543分的蚊帐哈（**不知道上次是哪次的就点这里哈**）。



Contents lists available at ScienceDirect

Pathology - Research and Practice

journal homepage: www.elsevier.com/locate/prp



Role of miR-452-5p in the tumorigenesis of prostate cancer: A study based on the Cancer Genome Atl(TCGA), Gene Expression Omnibus (GEO), and bioinformatics analysis

没错，就是这篇蚊帐，实在是太有内涵了。因为全程没有做实验，所以全程都用到了各种工具，看完这个，你会更长见识的。比如这段：

2.1. The clinical significance of miR-452-5p in prostate cancer from TCGA

TCGA serves as a huge repository of high throughput data on DNA, RNA, and protein in diverse human cancers, helping facilitate the comprehensive analysis of the expression of these components in various cancer types [20,21]. In the current study, we obtained the miR-452-5p expression profile of various types of human cancers and adjacent normal tissues from a TCGA data online analysis tool (http://bioinfo.life.hust.edu.cn/miR_path/index.html).

在这里，蚊帐里说到，他们分析了TCGA的数据。嗯，是TCGA中miRNA的表达数据，没错。其实他们用到的是这样一款网页神器：

Tumor-miRNA-Pathway

Browse miRNA: <ul style="list-style-type: none">let-7a-5plet-7b-5plet-7c-5plet-7d-5plet-7e-5plet-7f-5plet-7g-5pmiR-100-5pmiR-101-3pmiR-103a-3p Tumor type: <ul style="list-style-type: none">LUADPCPG <input type="button" value="Submit"/>	Search Tumor-miRNA-pathway miRNA = <input type="text" value="let-7a-5p"/> Cancer = <input type="text" value="LUAD"/> <input type="button" value="Submit"/> miRNA-target miRNA = <input type="text" value="let-7a-5p"/> <input type="button" value="Submit"/> TCGA expression profile <input type="text" value="miRNA"/> <input type="text" value="miRNA or gene symbol"/> <input type="button" value="Submit"/>
---	---

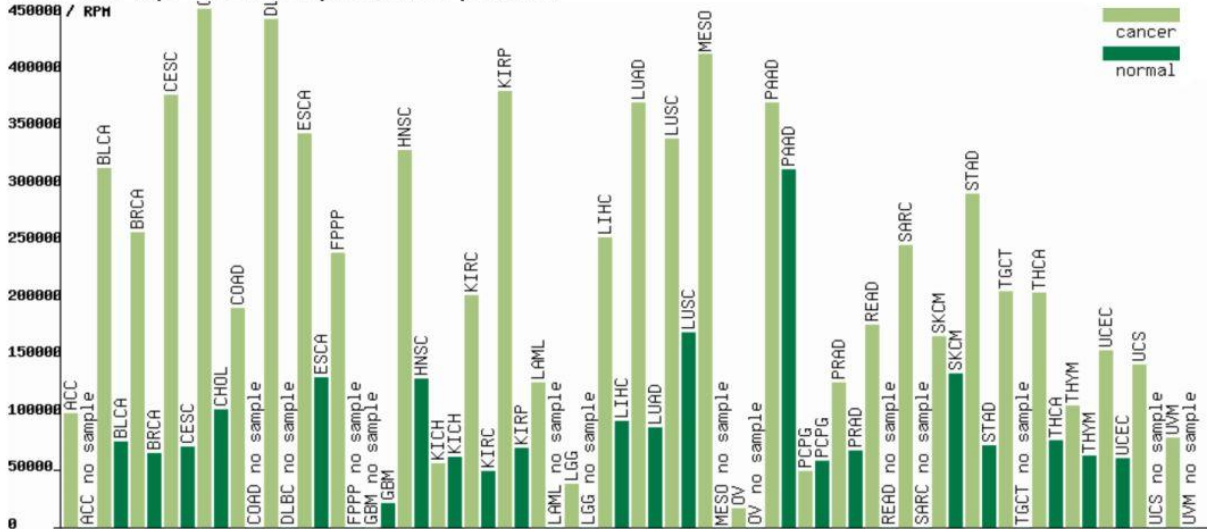
This is a database with user-friendly web interface to display the miRNA pathway regulation and their expressions in the 20 tumor types. The database provides search, browse and download function for the the miR-pathway data. Users can search miRNA regulating pathways, miRNA target genes and the expression profiles of miRNAs and genes in TCGA.

Tumor-miRNA-Pathway。没错，这个题目听了，你就知道，是有多简单粗暴了。就是研究肿瘤中 miRNA和miRNA相关的信号通路的。比如这篇蚊帐里涉及到的miRNA的表达，就是在这个界面的右侧下面这一栏：

Search Tumor-miRNA-pathway miRNA = <input type="text" value="let-7a-5p"/> Cancer = <input type="text" value="PCPG"/> <input type="button" value="Submit"/> miRNA-target miRNA = <input type="text" value="mir-21-5p"/> <input type="button" value="Submit"/> TCGA expression profile <input type="text" value="miRNA"/> <input type="text" value="miR-21-5p"/> <input type="button" value="Submit"/>
--

直接搜索miRNA就行了，我就搜了一个MiR-21-5p：

miR-21-5p TCGA expression profile



几乎和蚊帐里的图是一毛一样了：

Please cite this article as: Gao, L., Pathology - Research and Practice (2018), <https://doi.org/10.1016/j.prp.2018.03.002>

ARTICLE IN PRESS

Pathology - Research and Practice xxx (xxxx) xxx-xxx

miR-452-5p TCGA expression profile

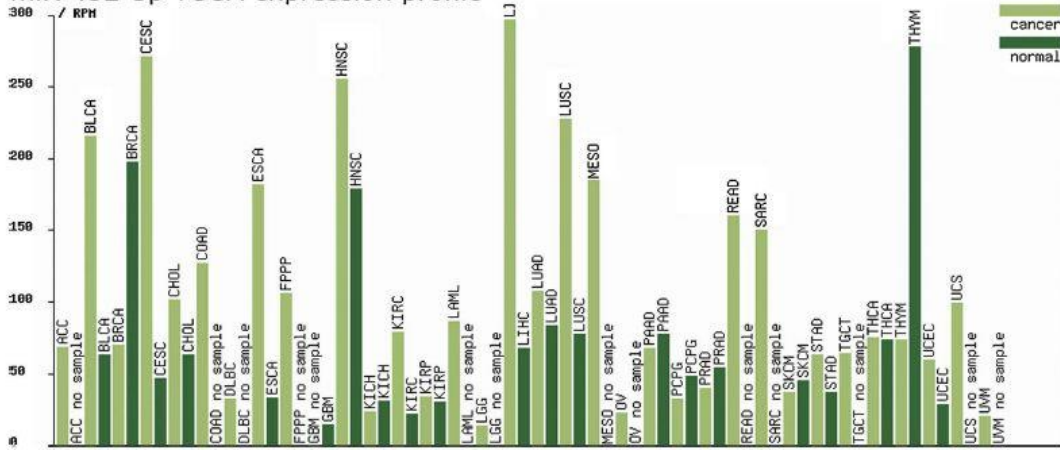


Fig. 1. Expression profile of miR-452-5p from TCGA. MiR-452-5p was down-regulated in prostate adenocarcinoma tissues compared with normal tissues.

好吧，其实这个神器还有别的功能，就是分析miRNA的信号通路：

miRNA: Tumor type:

miR-206

miR-20a-5p

miR-20b-5p

miR-210-3p

miR-211-5p

miR-215-5p

miR-21-5p

miR-217

miR-218-5p

miR-221-3p

BLCA

BRCA

CESC

CHOL

ESCA

HNSC

KIRC

KIRP

LIHC

LUAD

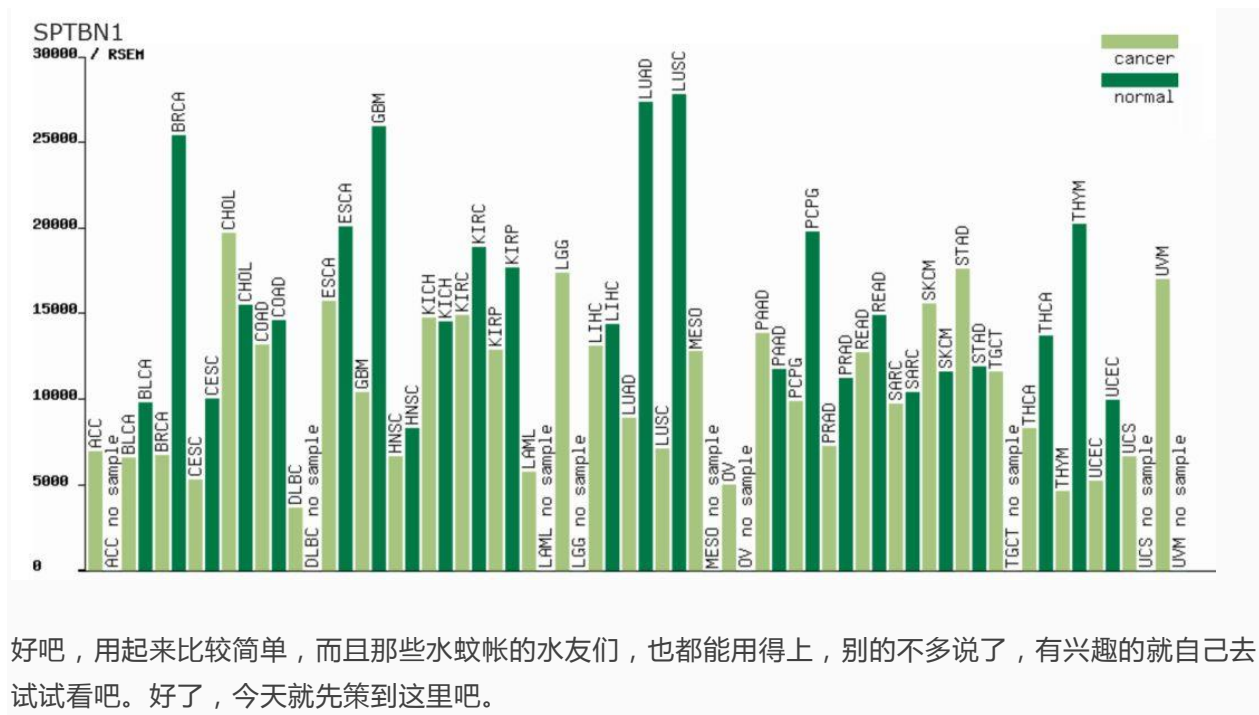
就随便浏览一下关于miR-21-5p在乳腺癌中的信号通路，当然分析的数据也都是基于TCGA的，然后就得到：

Tumor-miRNA-Pathway

miR-21-5p significantly regulates 28 pathways in BRCA(Breast invasive carcinoma)

miRNA id	Pathway alias	pathway name	P value	Targets exp.
miR-21-5p	PDZS	Synaptic Proteins at the Synaptic Junction	0.015729	Targets
miR-21-5p	TEL	Telomeres, Telomerase, Cellular Aging, and Immortality	0.015729	Targets
miR-21-5p	PPAR	Basic mechanism of action of PPARa, PPARb(d) and PPARg and effects on gene expression	0.0448604	Targets
miR-21-5p	LONGEVI	The IGF-1 Receptor and Longevity	0.0107628	Targets
miR-21-5p	TFF	Trefoil Factors Initiate Mucosal Healing	0.0303036	Targets
miR-21-5p	GCR	Corticosteroids and cardioprotection	0.015729	Targets
miR-21-5p	MAPK	MAPKinase Signaling Pathway	0.00302191	Targets

这就是跟miR-21-5p相关的信号通路了，当然也会有靶基因的表达数据，哲学数据也是基于TCGA的：



好吧，用起来比较简单，而且那些水蚊帐的水友们，也都能用得上，别的不多说了，有兴趣的就自己去试试看吧。好了，今天就先策到这里吧。