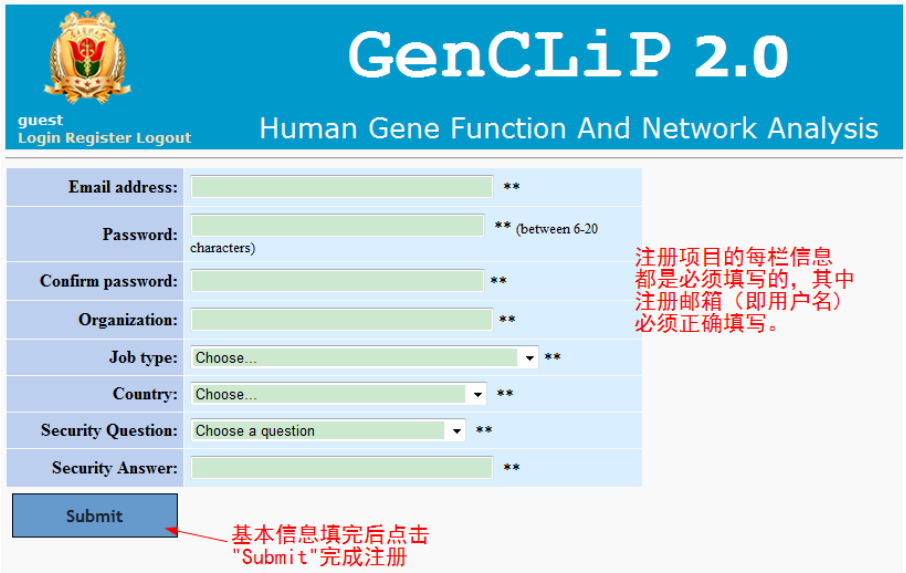
GenCLiP 2.0 使用手册

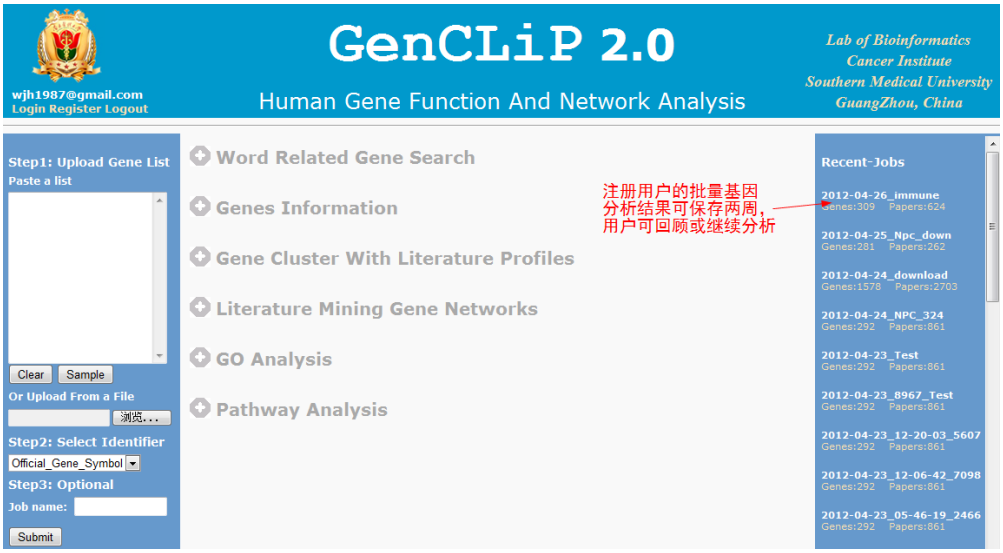
■ 用户注册

进入填写注册基本信息的界面：

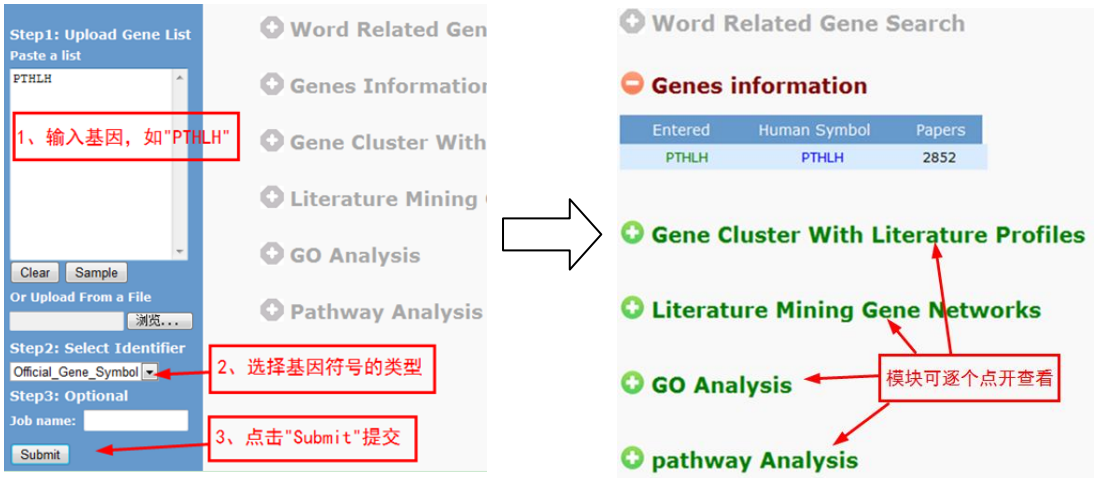


点击“Login”进入注册用户登陆界面：

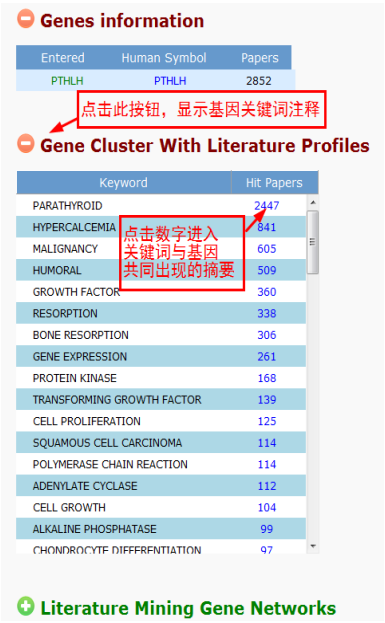
注册用户分析界面：

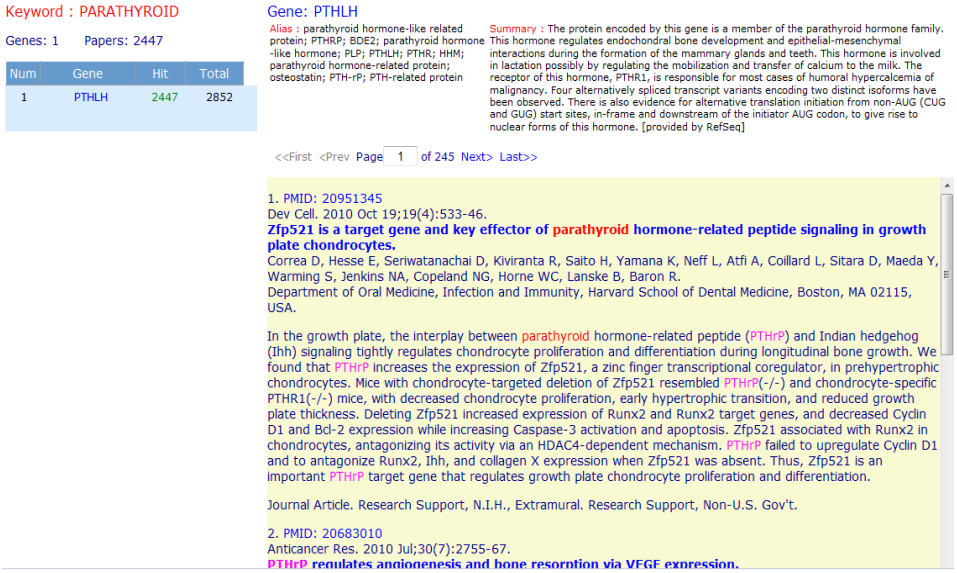

GenCLiP 2.0
Human Gene Function And Network Analysis
Lab of Bioinformatics
Cancer Institute
Southern Medical University
GuangZhou, China
wjh1987@gmail.com
Login Register Logout
Step1: Upload Gene List
Paste a list
Clear
Sample
Or Upload From a File
浏览...
Step2: Select Identifier
Official_Gene_Symbol
Step3: Optional
Job name:
Submit
Word Related Gene Search
Genes Information
Gene Cluster With Literature Profiles
Literature Mining Gene Networks
GO Analysis
Pathway Analysis
注册用户的批量基因
分析结果可保存两周，
用户可回顾或继续分析
Recent-Jobs
2012-04-26_immune
Genes:309 Papers:624
2012-04-25_Npc_down
Genes:281 Papers:262
2012-04-24_download
Genes:1578 Papers:2703
2012-04-24_NPC_324
Genes:292 Papers:861
2012-04-23_Test
Genes:292 Papers:861
2012-04-23_8967_Test
Genes:292 Papers:861
2012-04-23_12-20-03_5607
Genes:292 Papers:861
2012-04-23_12-06-42_7098
Genes:292 Papers:861
2012-04-23_05-46-19_2466
Genes:292 Papers:861

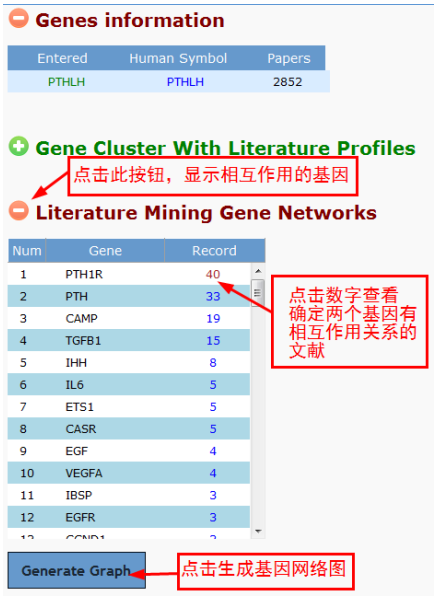
■ 单个基因信息检索

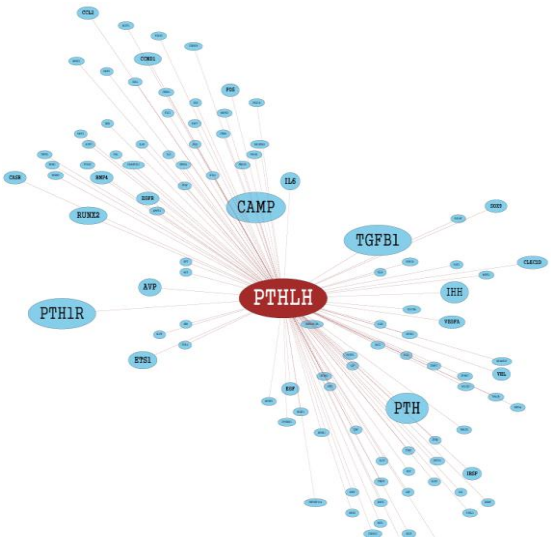


逐个模块点击弹开：









点击 PTH1R 的记录数“40”,链接基因对的文献出处：

Gene: **PTHLH**
Alias : parathyroid hormone-like related protein; PTHRP; BDE2; parathyroid hormone-like hormone; PLP; PTHLH; PTHR; HHM; parathyroid hormone-related protein; osteostatin; PTH-rP; PTH-related protein

Gene: **PTH1R**
Alias : parathyroid hormone/parathyroid hormone-related peptide receptor; parathyroid hormone/parathyroid hormone-related protein receptor; parathyroid hormone receptor 1; PTH/PTHrP type I receptor; PTH1 receptor; PTH1R; seven transmembrane helix receptor; PTHR1; PTH/PTHr receptor; parathyroid hormone 1 receptor; PTHR; PFE

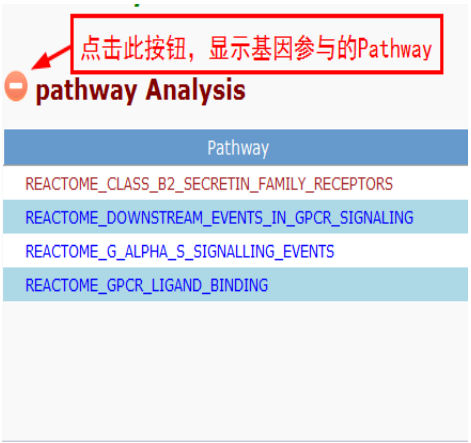
31. PMID: 10912527
Pediatr Nephrol. 2000 Jul;14(7):606-11.
Role of parathyroid hormone-related peptide and Indian hedgehog in skeletal development.
J??ppner H.
Department of Pediatrics, Massachusetts General Hospital and Harvard Medical School, Boston 02114, USA.

Parathyroid hormone-related peptide (PTHrP), which frequently causes the humoral hypercalcemia of malignancy syndrome, is an autocrine/paracrine regulator of chondrocyte proliferation and differentiation that acts through the PTH/PTHrP receptor (PTH1R). PTHrP is generated in response to Indian hedgehog (Ihh), which mediates its actions through the membrane receptor patched, but interacts also with hedgehog-interacting protein (Hip). Mice lacking PTHrP show accelerated chondrocyte differentiation, and thus premature ossification of those bones that are formed through an endochondral process, and similar but more-severe abnormalities are observed in PTH1R-ablated animals. The mirror image of these skeletal findings, i.e., a severe delay in chondrocyte differentiation and endochondral ossification, is observed in transgenic mice that overexpress PTHrP under the control of the alpha1(II) procollagen promoter. Severe abnormalities in chondrocyte proliferation and differentiation are also observed in two genetic disorders in humans that are most likely caused by mutations in the PTH1R. Heterozygous PTH1R mutations that lead to constitutively activity were identified in Jansen metaphyseal chondrodysplasia, and homozygous or compound heterozygous mutations that lead to less-active or completely inactive receptors were identified in patients with Blomstrand lethal chondrodysplasia. Based on the growth plate abnormalities observed in these human disorders and in mice with abnormal expression of either PTHrP or the PTH1R, it appears plausible that impaired expression of PTHrP and/or its receptor contributes to the growth abnormalities in children with end-stage renal disease. In fact, mild-to-moderate renal failure leads in animals to a reduction in PTH1R expression in growth plates and impaired growth, but it remains uncertain whether this contributes to altered chondrocyte growth and differentiation.

Journal Article. Review.

32. PMID: 10875241
Endocrinology. 2000 Jul;141(7):2410-21.
Dissection of differentially regulated (G+C)-rich promoters of the human parathyroid hormone (PTH)/PTH-related peptide receptor gene.
Minagawa M, Kwan MY, Bettoun JD, Mansour FW, Dassa J, Hendy GN, Goltzman D, White JH.
Department of Medicine, McGill University, Montr??al, Qu??bec, Canada.

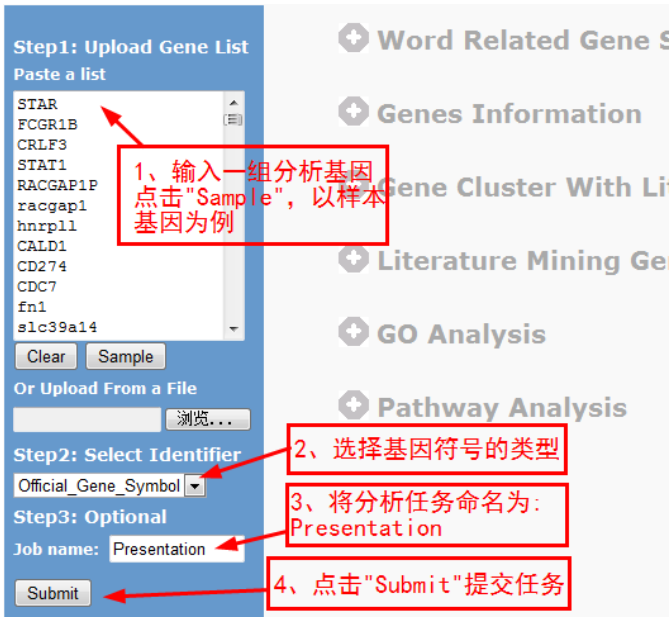
The PTH/PTH-related peptide (PTHrP) receptor (PTHR) is required for normal skeletal development, and a wide array of physiological responses mediated by PTH and PTHrP . We have previously identified three promoters, P1-P3, which control human PTHR gene transcription. P2 and P3 are (G+C)-rich, function in a number of tissues, lie within the same CpG island, and display many hallmarks of housekeeping promoters. However, they are differentially regulated during development as P2, but not P3, functions in fetal tissues. Here, we have used both stably and transiently transfected



■ 批量基因的分析流程

以网页上提供的样本基因，324 个鼻咽癌表达上调基因为例。

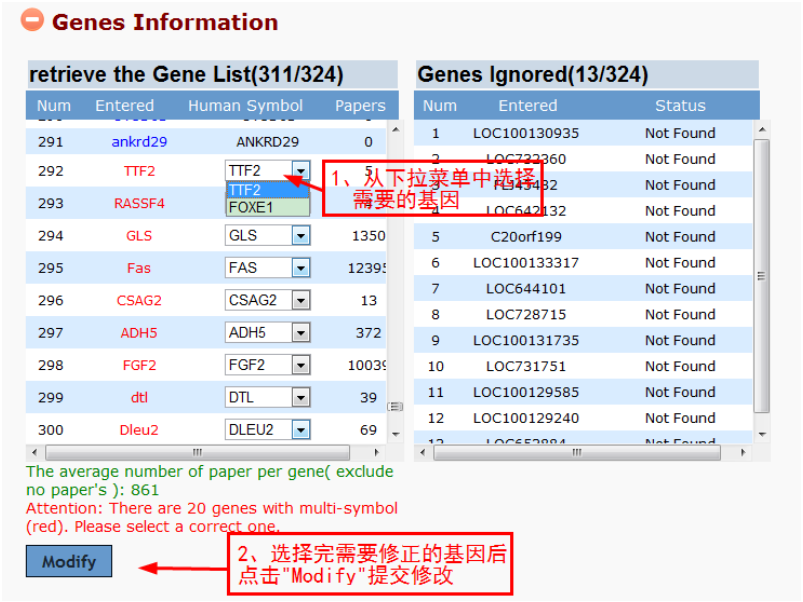
无论是在输入框输入还是以文本文件（txt 格式）上传一组分析基因，格式都为一个基因一行。



提交后显示基因信息，其它按钮为灰色，表示尚未分析

■ 基因信息

如有红字“Attention”提示有基因符号对应了多个基因，可进行修正：



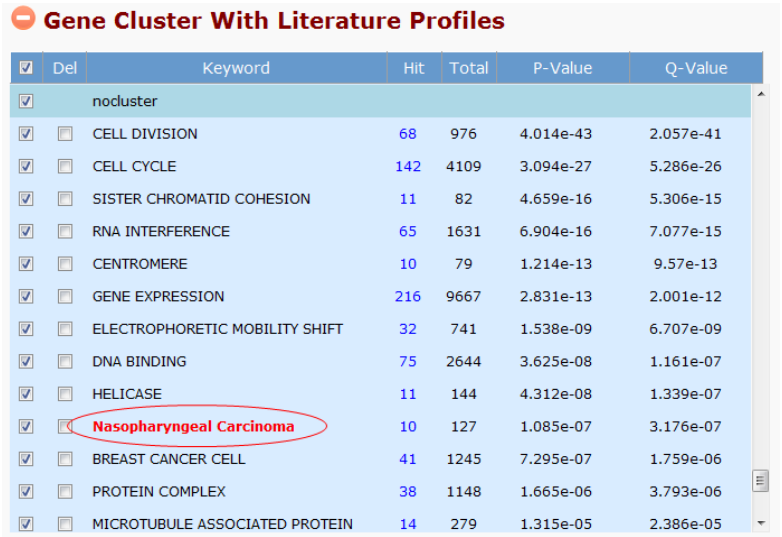
■ 基因功能注释和聚类

点击“Gene Cluster With Literature Profiles”按钮，短暂的等待后弹出聚类结果。

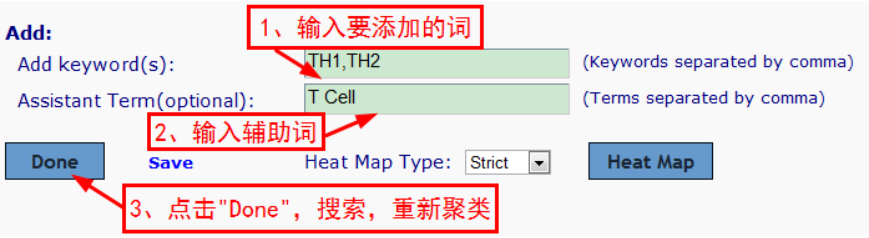
加载完后弹出基因关键词注释结果，

添加新的词进行注释，可同时输入多个词，以逗号隔开：

重新搜索、返回聚类结果：



添加新的词并且需要辅助词进行注释：



重新搜索、返回聚类结果：

Del	Keyword	Hit	Total	P-Value	Q-Value
	TUMOUR NECROSIS FACTOR	20	525	3.975e-05	6.429e-05
	TH1(T Cell)	20	339	1.713e-10	8.647e-10
	INDUCTION OF APOPTOSIS	20	481	5.46e-06	1.056e-05
	EPSTEIN BARR VIRUS	19	479	2.696e-05	4.5e-05
	PROTEIN BINDING	17	536	0.0031	0.0036
	TH2(T Cell)	17	273	3.398e-09	1.353e-08
	C REACTIVE PROTEIN	17	366	2.553e-06	5.231e-06
	TYROSINE KINASE INHIBITOR	16	355	9.778e-06	1.823e-05

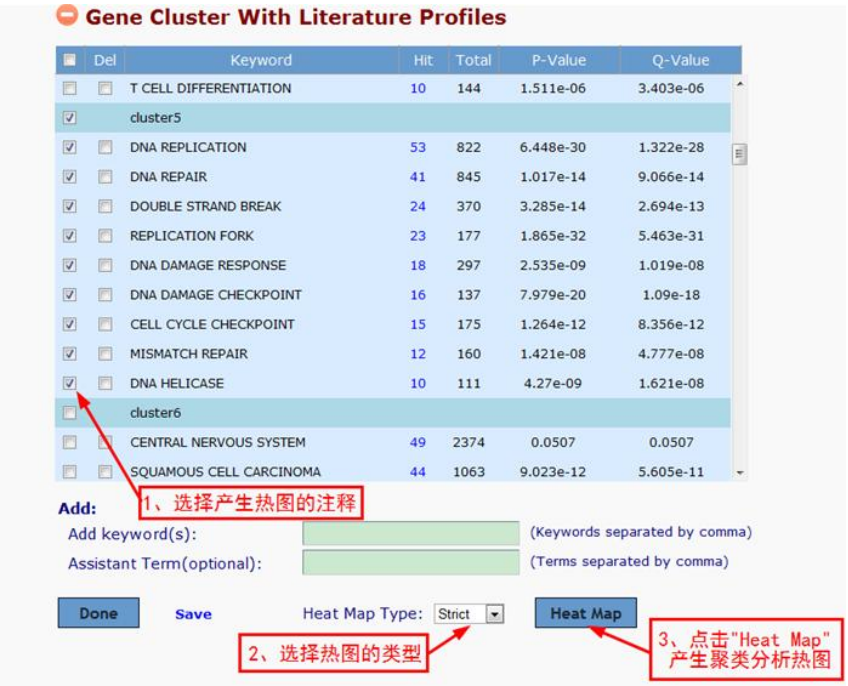
去除不需要的关键词注释：

Del	Keyword	Hit	Total	P-Value	Q-Value
	cluster1				
	CELL PROLIFERATION	142	4196	5.941e-26	9.46e-25
	GROWTH FACTOR	134	5299	1.235e-10	6.907e-10
	POLYMERASE CHAIN REACTION	132	5899	1.718e-06	3.782e-06
	SIGNAL TRANSDUCTION	86	3563	1.391e-05	2.482e-05
	CELL SURFACE	77	3695	0.008	0.0088
	cluster2				
	PROTEIN KINASE	106	4725	3.646e-05	5.943e-05
	CELL GROWTH	89	3097	4.649e-10	2.187e-09
	CELL DEATH	86	2942	3.485e-10	1.718e-09
	cluster3				
	S PHASE	66	1026	4.056e-37	1.679e-35
	KINASE ACTIVITY	49	1576	5.224e-07	1.287e-06
	M PHASE	42	418	2.996e-44	2.067e-42

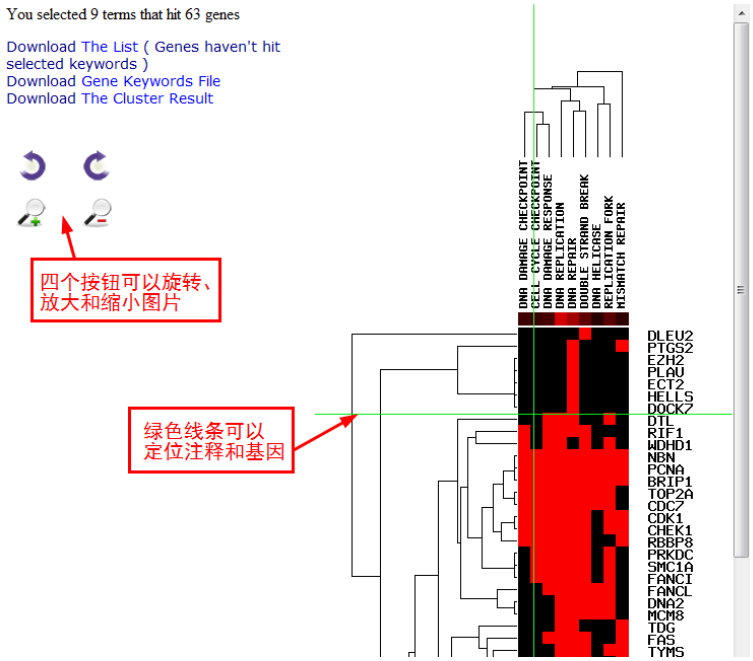
去除了所选注释，聚类结果随之发生变化

Del	Keyword	Hit	Total	P-Value	Q-Value
	cluster1				
	CELL PROLIFERATION	142	4196	5.941e-26	9.368e-25
	GROWTH FACTOR	134	5299	1.235e-10	6.84e-10
	PROTEIN KINASE	106	4725	3.646e-05	5.932e-05
	CELL GROWTH	89	3097	4.649e-10	2.166e-09
	SIGNAL TRANSDUCTION	86	3563	1.391e-05	2.479e-05
	cluster2				
	S PHASE	66	1026	4.056e-37	1.663e-35
	KINASE ACTIVITY	49	1576	5.224e-07	1.275e-06
	M PHASE	42	418	2.996e-44	2.047e-42
	CYCLIN DEPENDENT KINASE	40	695	4.466e-19	5.385e-18
	CELL CYCLE ARREST	40	786	1.332e-15	1.3e-14
	cluster3				
	EXTRACELLULAR MATRIX	62	1743	6.293e-12	4.031e-11

选择关键词注释产生聚类分析热图：

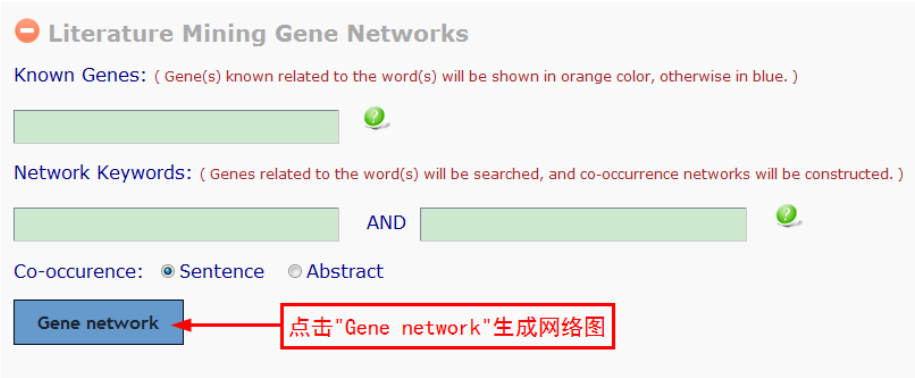


聚类分析结果：

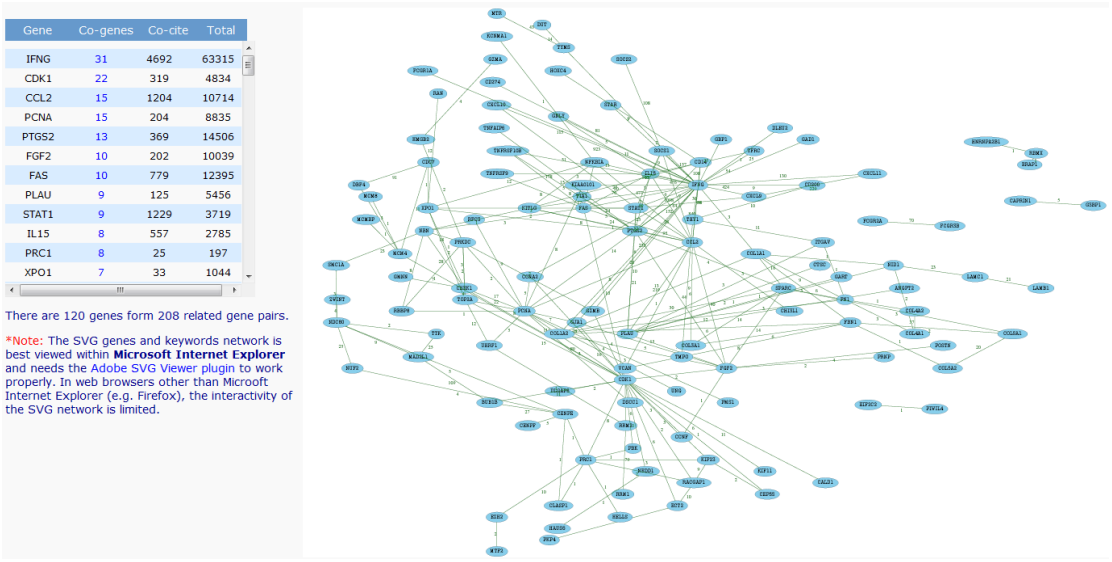


■ 构建文献基因网络

点击“Literature Mining Gene Network”，打开基因网络构建的界面：



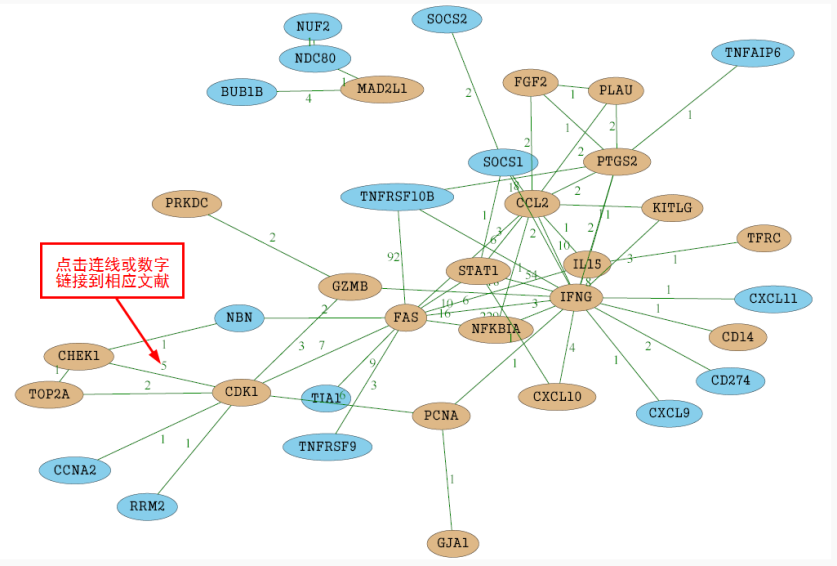
不加任何条件生成的网络图：



Gene	Co-genes	Co-cite	Total
IFNG	31	4692	63315
CDK1	22	319	4834
CCL2	15	1204	10714
PCNA	15	204	8835
PTGS2	13	369	14506
FGF2	10	202	10039
FAS	10	779	12395
PLAU	9	125	5456
STAT1	9	1229	3719
IL15	8	557	2785
PRC1	8	25	197
XPO1	7	33	1044

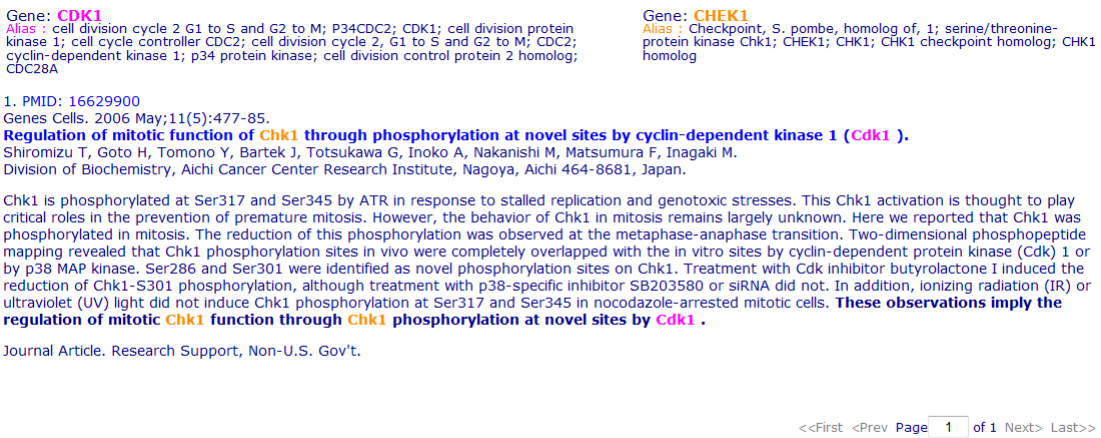
构建与自由词相关的基因网络，并且在网络中显示已知的基因，如果想用某个主题的多个词构建网络，以逗号将词隔开。

生成与“apoptosis,apoptotic”（凋亡）相关的基因网络图：

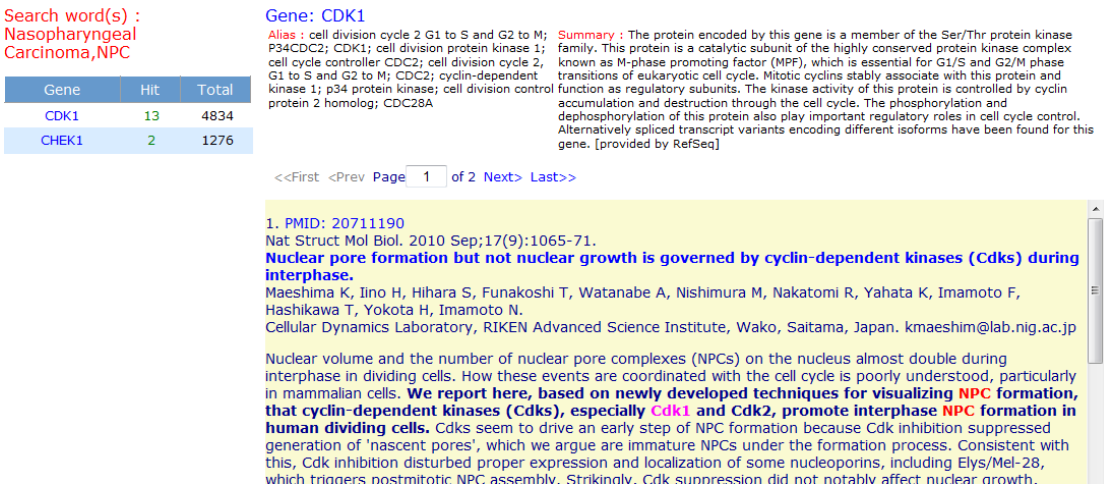


CDK1 和 CHEK1 相互作用，并且搜索词与它们共同出现在一个句子的文献：

点击“Literature mining”的结果：

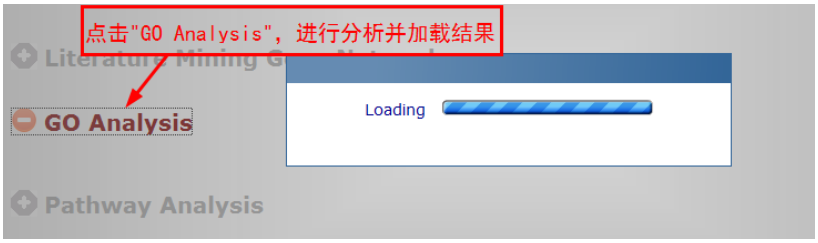


点击“Click here”的结果，这两个基因已知与鼻咽癌相关：



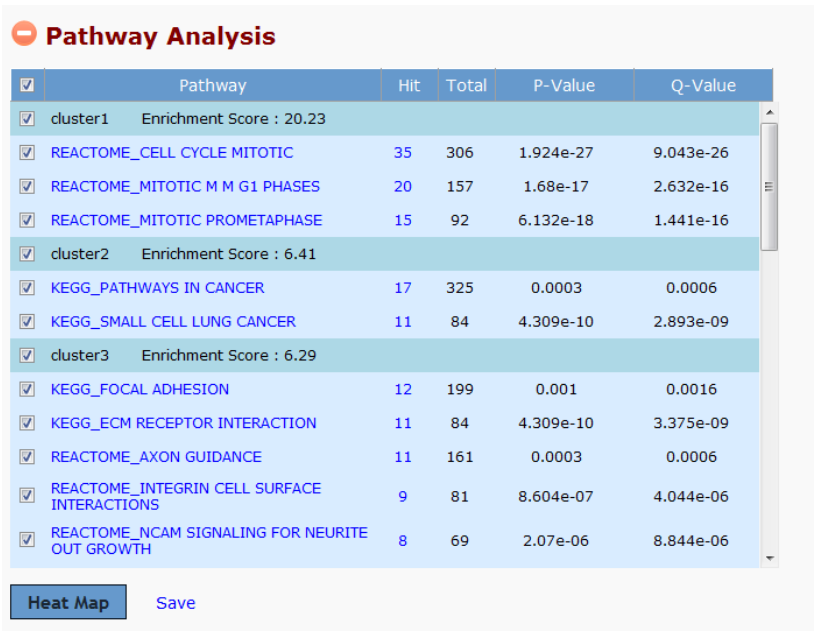
■ GO 和 Pathway 分析

点击“GO Analysis”和“Pathway Analysis”，进行分析和自动加载结果：



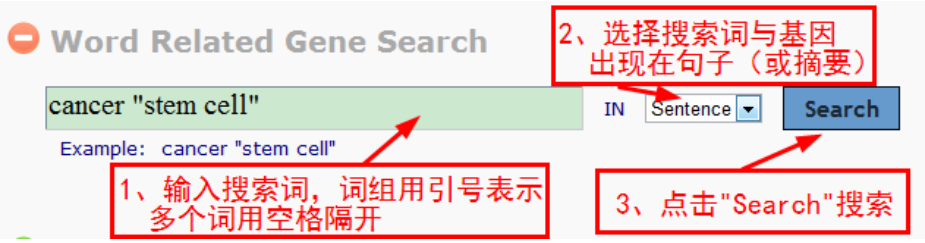
GO 分析结果，选择注释产生聚类分析热图与关键词注释中的操作一致。

Pathway Analysis 结果，解释和其他操作与 GO 的一致。



■ 词相关基因检索功能

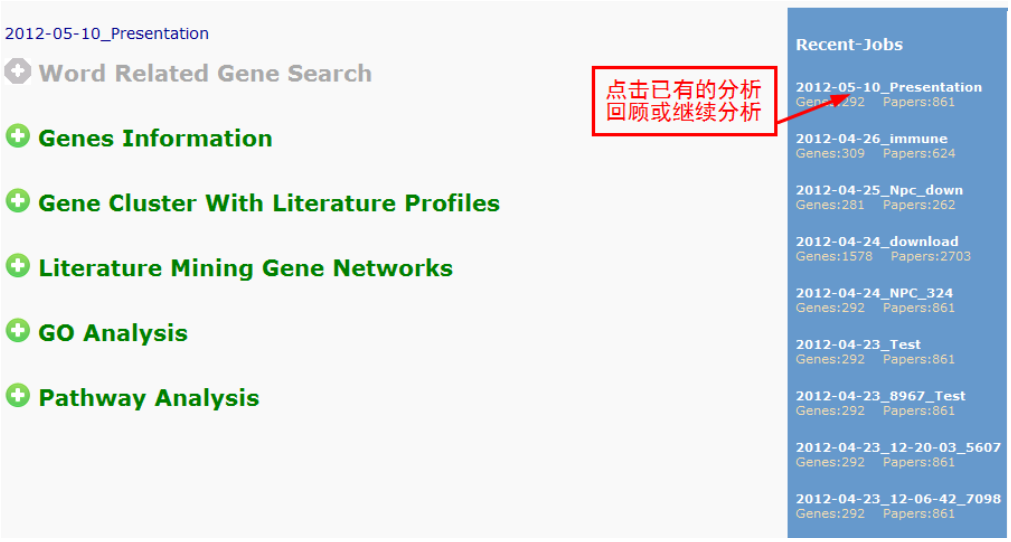
查找与检索词相关的基因，可以限定检索词与基因共同出现在同个句子或摘要，输入时不需要带除双引号外的其它标点符号，每个词之间用空格隔开，表示在同时出现这些词，词组用双引号表示。



点击基因或数字查看其他基因与搜索词相关的文献：

■ 回顾分析

相同的一组基因可以不重新输入，可以回顾已有的分析，或者继续分析。



回顾构建好的基因网络：