



Antibody array Service Process



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FAX. 02-3141-0792 / E-mail. service@e-biogen.com

Antibody array 종류



• Exploratory Antibody Arrays

[Explorer Antibody Array](#)
[Phospho Explorer Antibody Array](#)
[Signaling Explorer Antibody Array](#)

• Pathway Antibody Arrays

[Apoptosis](#) | [Cancer BioMarker](#) | [Cell Cycle](#)
[Cytokine Profiling](#) | [Cytokines](#) | [Kinase](#)
[Signal Transduction](#)

• Phosphorylation Antibody Array

[AKT](#) | [AKT/PKB](#) | [AMPK Signaling](#) | [Apoptosis](#)
[Cancer/Apoptosis](#) | [Cancer Signaling](#) | [Cell Cycle](#) | [Cell Cycle Control](#)
[Chromatin/Transcription](#) | [CREB](#) | [Cytoskeleton](#) | [EGF](#)
[ErbB/HER Signaling](#) | [ERK](#) | [FGF](#) | [GPCR](#) | [IGF-1R Signaling](#)
[Insulin Receptor](#) | [Jak/Stat](#) | [Jak/Stat II](#) | [MAPK](#) | [mTOR](#)
[Neuroscience](#) | [NF-kB](#) | [Nuclear Receptors](#)
[p53 Signaling](#) | [PDGF](#) | [T-cell Receptor](#)
[TGF-beta Signaling](#) | [Tyrosine Kinase Adaptors](#)
[Tyrosine PhosphorylationProArray](#)
[VEGF Pathway](#) | [Wnt Signaling](#)

Antibody Microarray type (FullmoonBio)

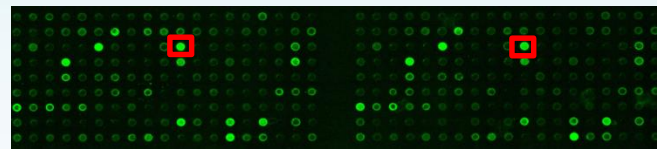
- Each antibody is printed with replicates for reliable and consistent results



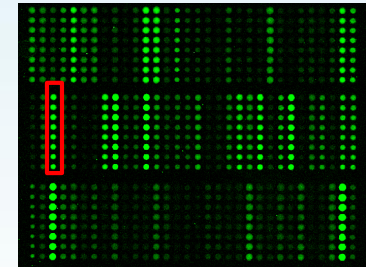
2 slides (1 package)



1 sample , 1 slide



Ex) Phospho explorer antibody microarray : duplicate

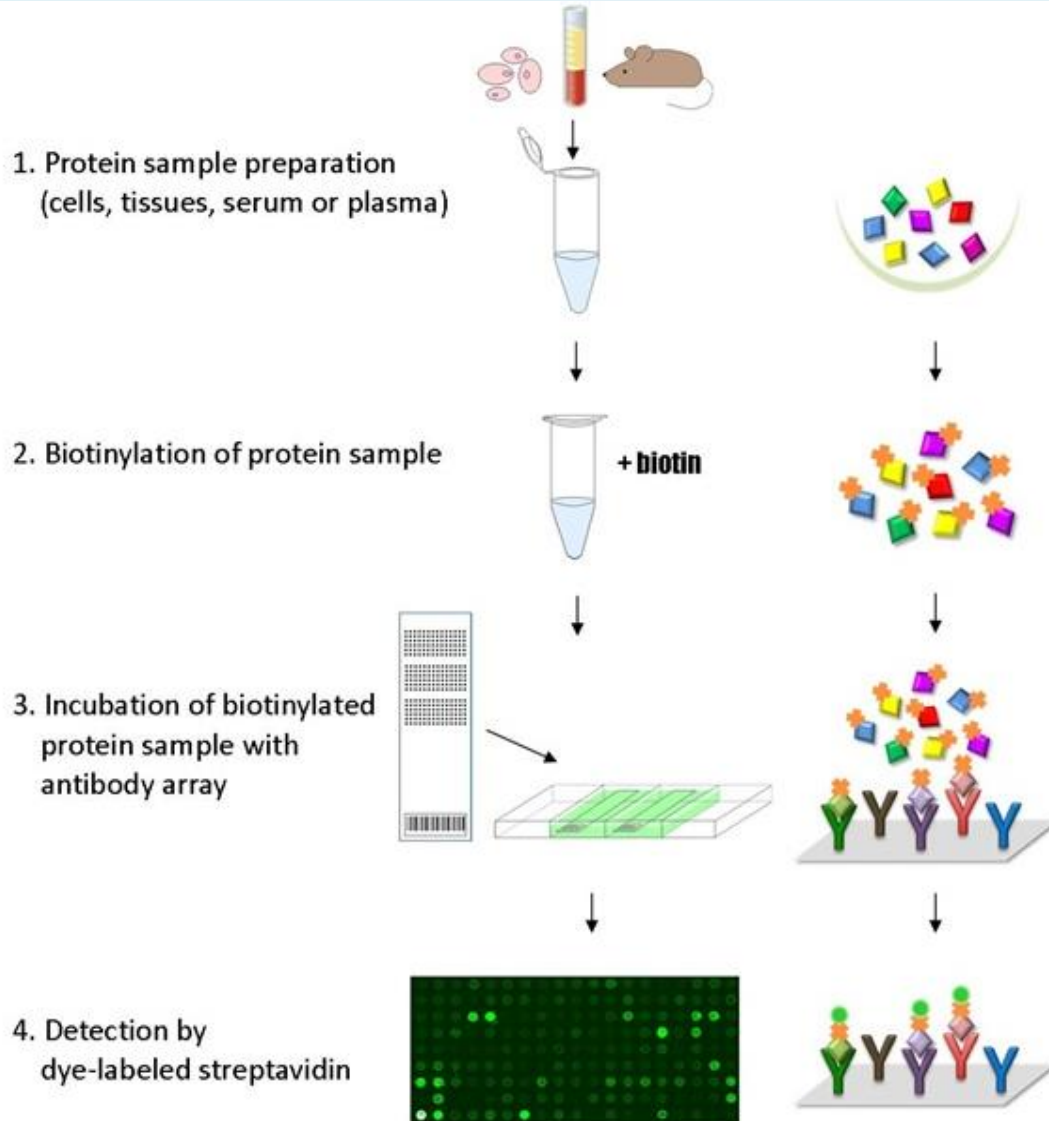


Ex) AKT antibody microarray : Six replicate

- Hundreds of proteins in a single experiment

Description	No. of Antibodies
Phospho Explorer Antibody Array	1318
Explorer Antibody Array	656
Signaling Explorer Antibody Array	1358
Cytokine Profiling Antibody Array	310

Antibody Microarray process (Fullmoonbio, Raybiotech L-type)



Antibody array service (Glass type)

G-Series



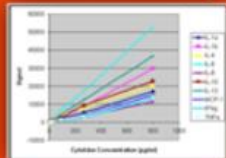
Detection	Fluorescent
Solid Support	Glass Slide
Design principle	Sandwich ELISA
Results	Semi-quantitative

L-Series

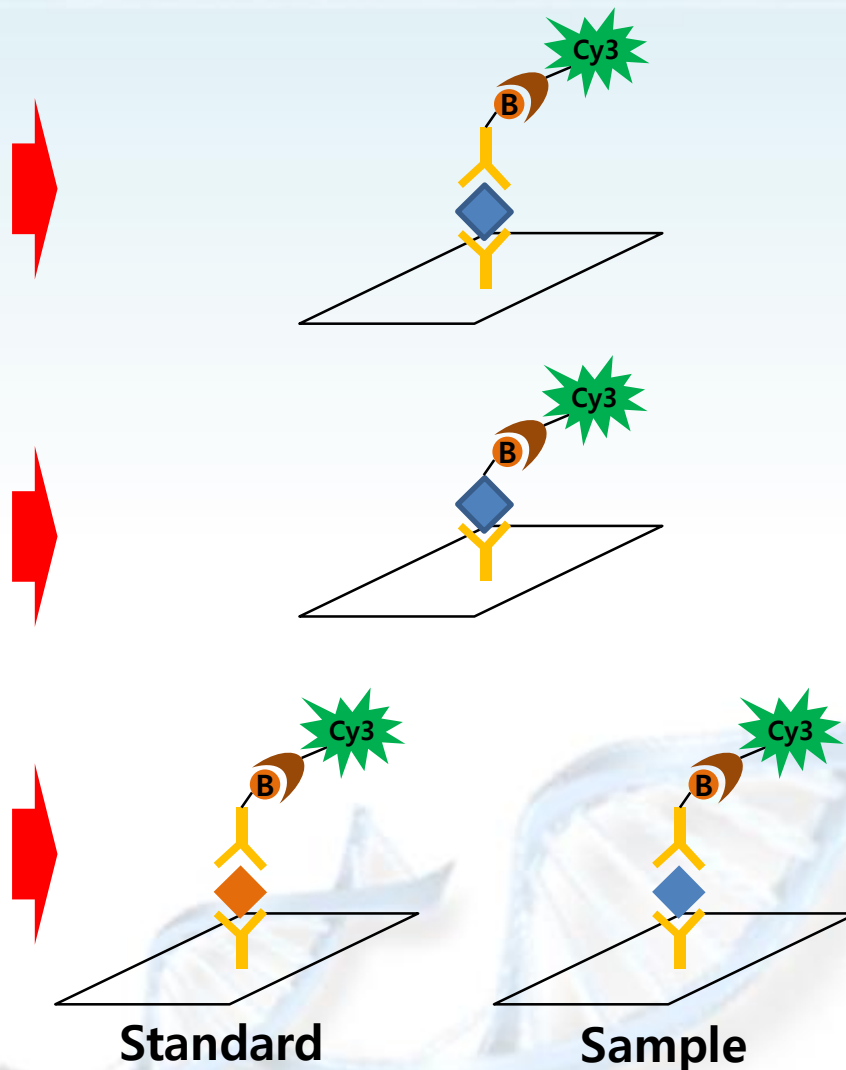


Detection	Fluorescent or Chemiluminescent
Solid Support	Glass Slide or Membrane
Design principle	Direct Labeling (Biotin)
Results	Semi-quantitative

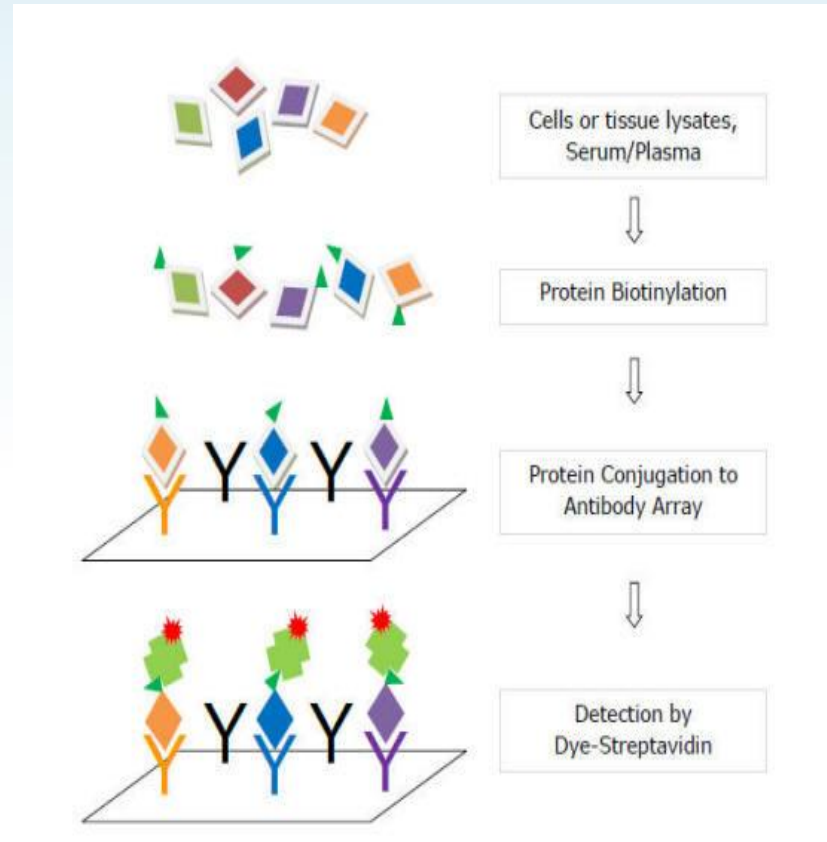
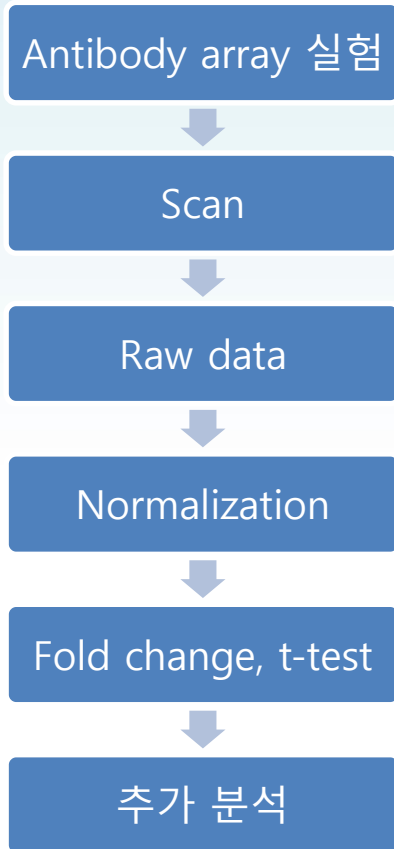
Quantibody®



Detection	Fluorescent
Solid Support	Glass Slide
Design principle	Sandwich ELISA
Results	Quantitative



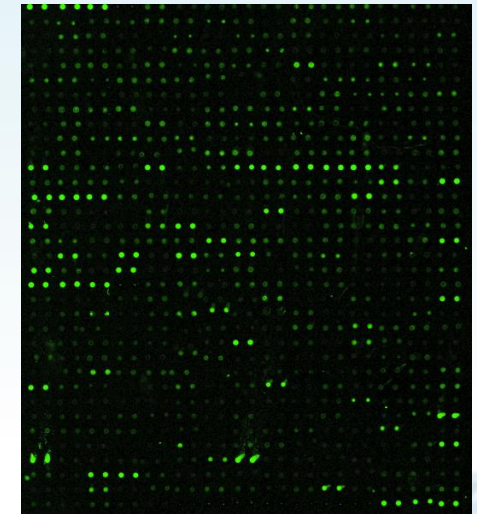
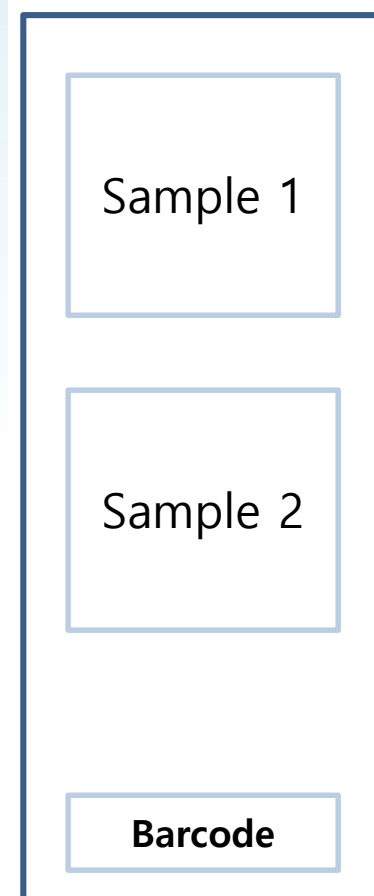
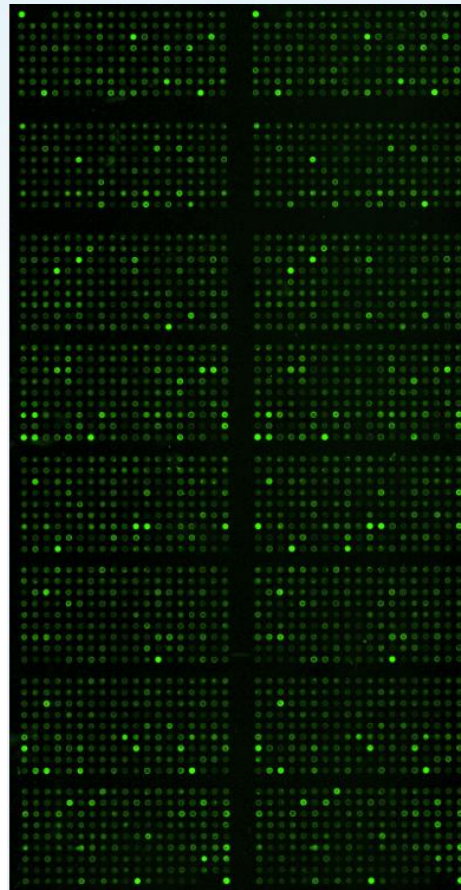
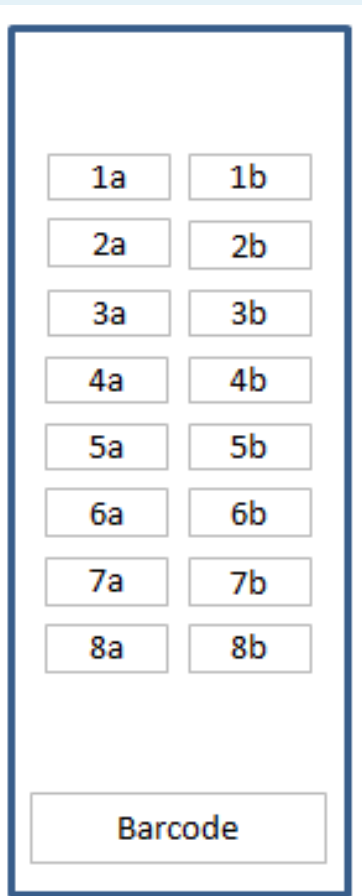
Antibody array analysis process



Antibody array analysis process

FullmoonBio Phospho explorer

RayBiotech L507



Each antibody is printed with replicates for reliable and consistent results

Sample Preparation

Sample Type	Comment
Cell	5 million cells in frozen pellets (recommend; only use cold PBS to wash the media/cells. To protect protein activity, avoid using trypsin or other reagents.)
Tissue	75 mg of frozen tissues (about 5 mm diameter)
Serum	>100 ul serum (not blood)
Cell Media	From 2 plates of 100 mm dish
For reference, we require 200 ug protein.	

All samples must be frozen and shipped to us on dry ice.

Antibody array analysis process

Raw data (.gpr)

Supplier=	Block	Column	Row	Name	ID	X	Y	Dia.	F532 Med	F532 Mear	F532 SD	B532 Med	B532 Mear	B532 SD	% > B532	% > B532	F
27	LaserPower=03.44																
28	Supplier=																
29	Block	1	1	1 Positive Marker	P	2010	10770	250	12295	13496	7153	97	130	815	94	93	
30		1	2	1 Empty	E	2450	10800	250	100	102	29	101	130	805	0	0	
31		1	3	1 Empty	E	2900	10800	250	105	108	33	102	104	29	18	5	
32		1	4	1 c-Jun (Phospho-Ser6)		3350	10800	250	643	679	449	102	105	30	96	95	
33		1	5	1 GSK3 beta (Phospho-		3800	10800	250	476	466	220	102	104	28	92	89	
34		1	6	1 c-Jun (Phospho-Ser7)		4250	10800	250	661	747	426	102	105	29	96	96	
35		1	7	1 Elk-1 (Phospho-Ser3E		4700	10800	250	463	480	301	104	106	29	90	82	
36		1	8	1 PDK1 (Phospho-Ser2)		5150	10800	250	988	1229	897	104	107	27	95	93	
37		1	9	1 Raf1 (Phospho-Ser2)		5600	10800	250	661	641	265	103	105	27	94	93	
38		1	10	1 GSK3 alpha (Phospho		6050	10800	250	355	391	190	105	107	32	93	91	
39		1	11	1 MEK2 (Phospho-Thr		6500	10800	250	370	378	168	104	108	31	96	90	
40		1	12	1 PTEN (Phospho-Ser3		6950	10800	250	545	538	175	105	107	29	96	95	
41		1	13	1 NFkB-p65 (Phospho-		7400	10800	250	480	474	163	106	108	32	96	95	
42		1	14	1 NFkB-p65 (Phospho-		7850	10800	250	537	554	166	109	111	30	98	98	
43		1	15	1 NFkB-p65 (Phospho-		8300	10800	250	517	534	274	110	125	505	34	1	
44		1	16	1 NFkB-p65 (Phospho-		8750	10800	250	382	407	316	106	109	58	95	90	
45		1	17	1 NFkB-p65 (Phospho-		9200	10800	250	381	399	169	105	107	34	97	95	
46		1	18	1 NFkB-p100/p52 (Pho		9650	10800	250	819	875	385	106	108	29	97	97	
47		1	19	1 NFkB-p100/p52 (Pho		10100	10800	250	595	583	208	107	110	40	95	93	
48		1	1	2 SEK1/MKK4 (Phosph		2000	11250	250	523	571	251	100	106	207	89	51	
49		1	2	2 ASK1 (Phospho-Ser9		2450	11250	250	722	741	348	101	103	30	97	97	
50		1	3	2 HDAC4 (Phospho-Ser		2900	11250	250	590	649	324	103	105	28	98	97	
51		1	4	2 HDAC5 (Phospho-Ser		3350	11250	250	704	687	211	102	105	31	97	97	
52		1	5	2 HDAC9 (Phospho-Ser		3800	11250	250	522	513	138	102	104	27	98	98	
53		1	6	2 HSP27 (Phospho-Ser		4250	11250	250	731	735	211	103	105	27	98	98	
54		1	7	2 SMC1 (Phospho-Ser9		4700	11250	250	540	552	187	103	105	27	99	99	
55		1	8	2 BCR (Phospho-Tyr17		5150	11250	250	693	637	263	104	106	27	96	94	
56		1	9	2 MSK1 (Phospho-Ser3		5600	11250	250	467	484	220	102	105	33	98	97	
57		1	10	2 Paxillin (Phospho-Tyr		6050	11250	250	528	522	203	104	107	31	98	96	
58		1	11	2 Ezrin (Phospho-Thr5		6500	11250	250	797	801	260	105	108	33	98	98	

Normalization (RayBiotech)

RAYBIOR_ANALYSIS_TOOL-(AAH-BLG-1-SW) [호환 모...]

가 가 가 가 사용자 지정 W % 스타일

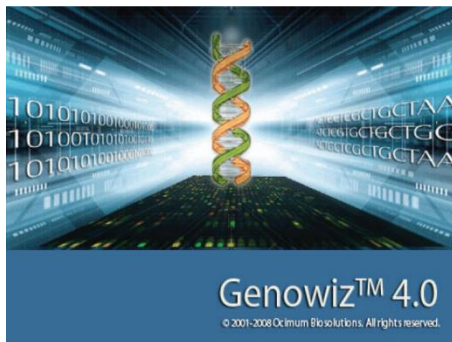
H1

	A	B	C	D	E	F	G
1	RayBio® Human Cytokine Antibody Arrays -- Biotin-Label Based G Series						
2		A	B				Sa
3		With Background	Without Background	With Background	Without Background		With E
4	Positive 1	6804	6733	6655	6585		
5	Positive 1	6759	6689	6588	6517		
6	Positive 2	3645	3574	3582	3511		
7	Positive 2	3760	3692	3490	3419		
8	Positive 3	2148	2080	2102	2034		
9	Positive 3	2081	2015	2047	1977		
10	neg	72	3	79	10		
11	neg	79	10	73	2		
12	6Ckine	193	124	151	76		
13	6Ckine	190	122	159	82		
14	Activin A	763	692	188	112		
15	Activin A	691	622	189	116		
16	Activin B	136	66	124	51		
17	Activin B	126	57	121	48		
18	Activin C	194	127	160	84		
19	Activin C	197	130	156	82		
20	Activin RIA / ALK-2	142	73	123	50		
21	Activin RIA / ALK-2	135	69	117	43		
22	Activin RIB / ALK-4	139	70	121	48		
23	Activin RIB / ALK-4	141	73	125	55		
24	Activin RII A/B	144	76	143	72		
25	Activin RII A/B	138	69	136	63		
26	Activin RIIA	119	50	124	53		
27	Activin RIIA	125	58	124	56		
28	Adiponectin / Acrp30	126	58	120	53		
29	Adiponectin / Acrp30	131	63	123	56		
30	AgRP	135	67	128	62		
31	AgRP	142	73	130	63		

importing data / Map aligning data / Sorting 1 / Average 1 / Pos Normalization

준비 75%

Normalization (Fullmoon)



Antibody array service report

Result file description

1. Data Analysis Result.

보내드린 분석 파일의 압축을 풀면 1개의 폴더와 분석 결과가 정리된 엑셀 파일, Scatter plot, 보시고 계산 report 파일이 존재합니다..

A. Scan image & Raw data 폴더.

- i. *.gpr : scanning을 통하여 image analysis를 거친, normalization 전의 raw data 파일입니다..
- ii. *.jpg : 스캔 이미지 파일입니다..

B. Scatter plot.

- i. *.jpg : Experiment / Control 산점도 그래프파일입니다..

C. Excel column information.

분석 결과 파일은 엑셀로 첨부해드리며, 시트 내 각 컬럼의 의미는 다음과 같습니다..

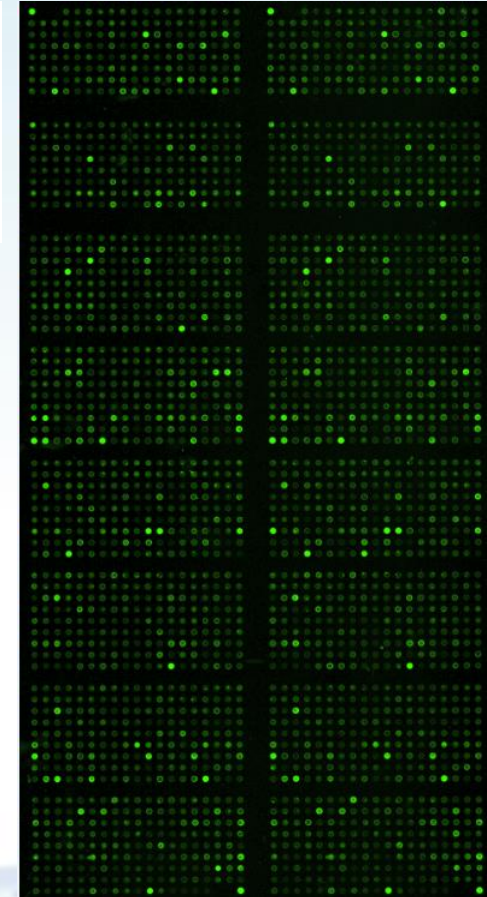
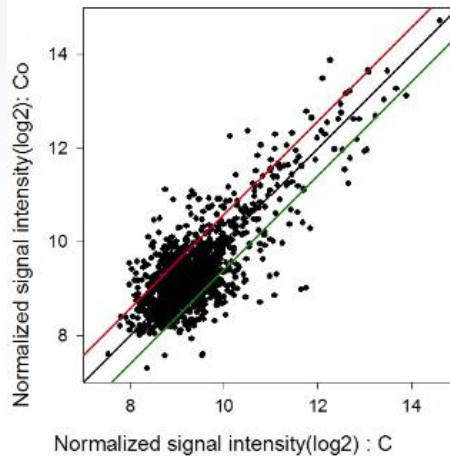
i. Antibody array data.

ID.	Fullmoon antibody array 고유 ID.
Antibody name.	Antibody name(probe).
Normalized Data.	Normalized intensity.
Raw Data.	Raw intensity & Flag.
Fold Change Data.	Experiment / Control Linear scale이므로 1을 기점으로 1보다 작은 값이면 control보다 expression이 감소, 1보다 큰 값이면 expression이 증가한 경우입니다..

ii. Fullmoon annotation.

Reactivity.	Antibody Information 컬럼..
IG Isotype.	IG type, epitope정보, antibody의 source(organsims), 기타 정보가 표시되어 있습니다..
Epitope.	
Source.	(phosphor antibody array는 일부 제공).
Notes.	
Remark fro annotation.	
Swissprot.	UniProt/SwissProt DB의 accession number.

- Raw data & Scan image
- Fullmoon Phospho-Explorer array Report
- Fullmoon Phospho-Explorer array
- Scatter plot



Antibody array service report

[Sample] Fullmoon_Phospho-Explorer ver2.0 - Microsoft Excel

원하는 GO 추가 가능

1	Filter: 1318		Fold change			Normalized data (log2)			Raw data			
	Probe Set ID	Gene Symbol	1/cont	2/cont	3/cont	cont	1	2	3	cont	1	2
3	1	JUN	1.079	0.909	1.377	9.827272672	9.936852943	9.689379646	10.2884302	847	820	881.5
4	2	GSK3B	1.001	0.530	0.600	10.47655065	10.47654138	9.560198934	9.737531848	1327.5	1192	806
5	3	JUN	1.227	0.888	0.970	10.60289164	10.89761784	10.43108375	10.55905381	1450	1596	1474
6	4	ELK1	1.088	1.320	0.971	10.98560659	11.10755972	11.38635314	10.94291222	1890.5	1846	2858
7	5	PDPK1	0.821	0.671	0.781	11.43448937	11.1495361	10.85794019	11.07740658	2580.5	1900.5	1981.5
8	6	RAF1	0.984	0.892	0.875	10.79541225	10.77257991	10.63092916	10.60266788	1657	1463.5	1693
9	7	GSK3A	0.880	0.871	0.911	10.55535374	10.3704639	10.35574321	10.42094467	1403	1107.5	1399
10	8	MAP2K2	0.972	0.711	0.909	10.99814352	10.95651149	10.50686937	10.86116641	1907	1662.5	1553.5
11	9	PTEN	0.825	0.703	0.782	9.70189659	9.423535943	9.194428887	9.347469983	776.5	574.5	625.5
12	10	RELA	0.742	0.556	0.803	10.03989892	9.609416274	9.193275239	9.724092579	981.5	653.5	625
13	11	RELA	1.159	0.738	0.829	10.27598013	10.48919408	9.838515824	10.00535156	1156	1202.5	977.5
14	12	RELA	1.261	1.010	0.910	10.33467419	10.6694134	10.34850642	10.19799682	1204	1362.5	1392
15	13	RELA	1.098	1.847	2.630	10.79975904	10.93421151	11.68487185	12.1945902	1662	1637	3515
16	14	RELA	1.005	0.933	1.030	9.399117034	9.405849444	9.298953349	9.441619921	629.5	567.5	672.5
17	15	NFKB2	1.004	0.900	0.925	11.31537365	11.32110496	11.1629508	11.20284946	2376	2140.5	2448
18	16	NFKB2	1.543	0.834	1.198	9.827272672	10.45274512	9.564666919	10.08741272	847	1172.5	808.5
19	17	MAP2K4	0.848	0.709	0.801	9.357263107	9.120010243	8.861212865	9.036673935	611.5	465.5	496.5
20	18	MAP3K5	1.696	1.366	0.984	9.6236359	10.38601162	10.07360818	9.600830781	735.5	1119.5	1150.5
21	19	HDAC4	1.131	1.114	1.258	9.572729705	9.750227543	9.72813373	9.904108774	710	720.5	905.5
22	20	HDAC5	0.875	1.255	0.755	10.14339788	9.949988389	10.47066497	9.738200542	1054.5	827.5	1515

Raybiotech사 array chip은 GO 추가가 불가능합니다.

Antibody array service report

[Sample] Fullmoon_Phospho-Explorer ver2.0 - Microsoft Excel

Excel ribbon: Home, Insert, Page Layout, Formulas, Data, Review, View, ExDEGA

Excel title bar: B2, Gene Symbol

Excel status bar: 준비 1321개 중 53개의 레코드가 있습니다.

Filter: 53		Fold change			Normalized data (log2)			Raw data				
Probe Set ID	Gene Symbol	1/cont	2/cont	3/cont	cont	1	2	3	cont	1	2	
79	77	FOS	0.380	1.511	1.613	9.878309685	8.483785029	10.47351896	10.56810842	877.5	299.5	1518
80	78	ARHGAP35	2.641	1.549	1.926	8.968333178	10.36916066	9.599920836	9.913611999	467	1106.5	828.5
83	81	NFKBIB	0.255	0.542	0.287	10.47663696	8.507671253	9.592938634	8.673948667	1328.5	304.5	824.5
86	84	IKBK	2.308	2.052	1.887	9.086896366	10.29354648	10.12412622	10.00312785	507	1050	1191.5
103	101	PRKAR2B	0.424	0.681	0.496	10.91283052	9.676279575	10.35780423	9.901126198	1797.5	684.5	1401
120	118	ALK	0.283	0.218	0.246	11.62437136	9.803302605	9.427163328	9.600830781	2943.5	747.5	735
131	129	DDX5	0.323	0.325	0.608	11.4874559	9.855425412	9.867735881	10.77059229	2677	775	997.5
146	144	PAK4	2.617	0.822	0.508	10.31658746	11.70471443	10.03355722	9.340440986	1189	2792.5	1119
147	145	PRKCA	2.604	0.900	0.910	9.28716867	10.66782428	9.134381652	9.150561454	582.5	1361	600
175	173	CTNBN1	2.108	1.647	1.204	8.82727264	9.903031278	9.546711508	9.095263297	423.5	801	798.5
181	179	STMN1	0.344	0.675	0.513	9.957479996	8.417244219	9.390385882	8.994757901	927	286	716.5
231	229	FOXO1	0.373	0.897	0.539	9.763722781	8.339521931	9.60686941	8.873392741	810.5	271	832.5
255	253	PAK1	2.068	1.966	1.124	8.436444796	9.4849888	9.411374445	8.605235888	323	599.5	727
259	257	IKBK	0.486	0.883	1.269	9.540885327	8.500546859	9.3608902	9.884912515	694.5	303	702
265	263		0.456	0.870	1.384	9.546069245	8.412190949	9.344354835	10.01531664	697	285	694
301	299	MAPK14	0.367	0.360	0.329	10.24443757	8.798469533	8.769749065	8.638569389	1131	372.5	466
310	308	GATA1	2.011	1.313	0.993	9.458606546	10.4662169	9.851006737	9.448173929	656	1183.5	986
385	383	RPS6KA1	3.271	0.884	2.340	9.299499505	11.00933527	9.121095851	10.5257461	587.5	1724.5	594.5
393	391	RAF1	2.199	2.009	2.250	8.630484978	9.767147925	9.636881908	9.800352963	369.5	729	850
396	394	SYN1	0.486	0.465	0.474	9.653723513	8.612724036	8.549419126	8.577106527	751	327.5	400

DEG Analysis Panel:

- Significant Gene Selection
 - Fold change: 2
 - Normalized data (log2): 6
 - p-value: -
- Sample Comparison / Filter
 - 1/cont
 - 2/cont
 - 3/cont
- Gene Category Graph
- Analysis Graph
- Selected Gene Graph (Probe ?)

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 2, 305호 TEL. 02-3141-0791 / FAX. 02-
 3141-0792 / E-mail. service@e-

Antibody array service report



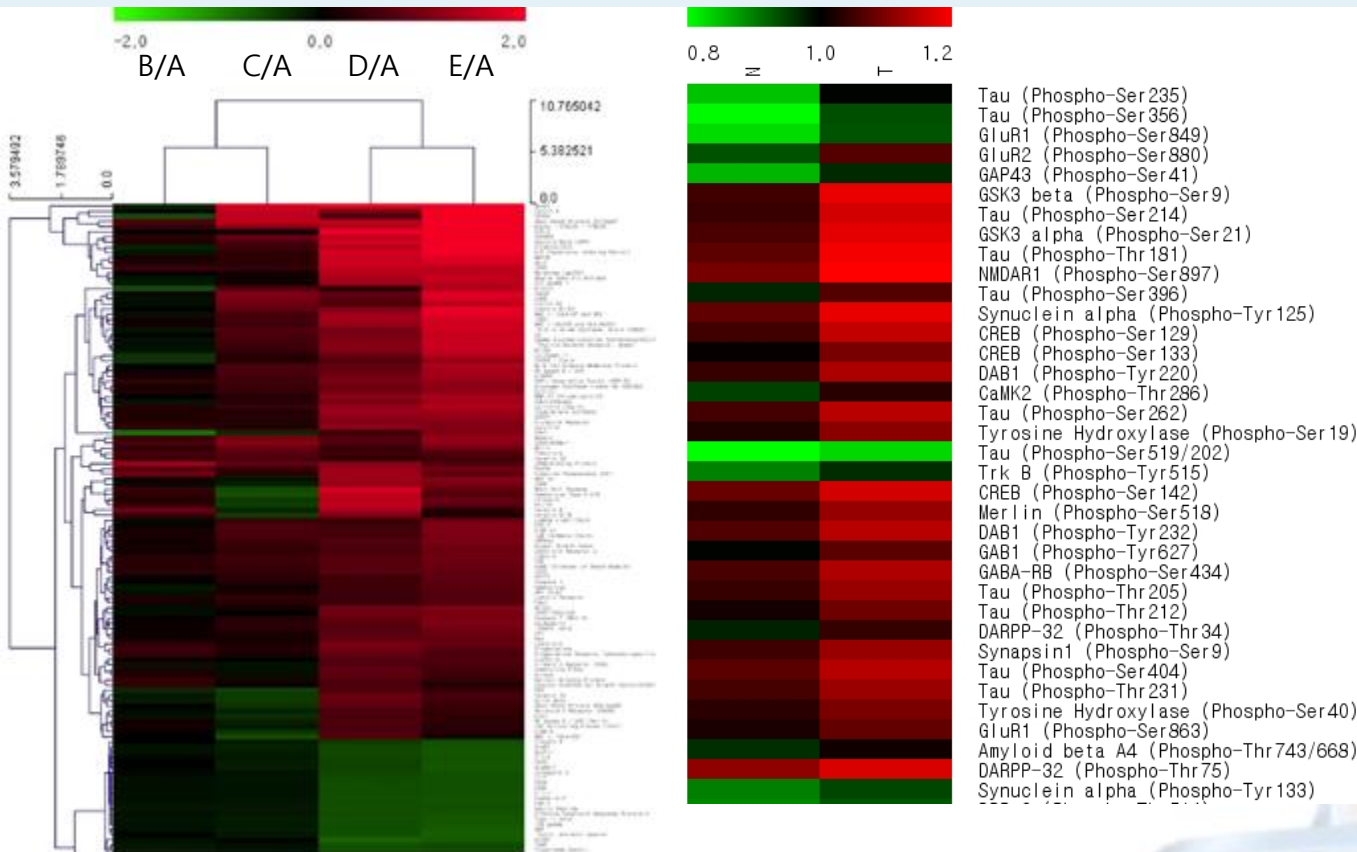
(주)이바이오젠 서울 영등포구 선유로 13
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 3141-0792 / E-mail. service@e-

Antibody array service report

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1						A			B			B/A			
2	No.	phospho-form Antibody Name	unphospho-form Antibody Name	phospho-form ID	unphospho-form ID	phosphorylated residue	phospho-form intensity	unphospho-form intensity	phospho/unphospho	phospho-form intensity	unphospho-form intensity	phospho/unphospho	phospho-form ratio	unphospho-form ratio	phosphorylation ratio
3	PID-603	Tuberin/TSC2 (Phospho-Thr1462)	Tuberin/TSC2 (Ab-1462)	396	1278	Tuberin/TSC2 (Phospho-Thr1462)	7.913	9.114	0.868	9.075	7.937	1.143	2.238	0.442	5.061
4	PID-557	VEGF R2 (Phospho-Tyr1054)	VEGF R2 (Ab-1054)	265	1154	VEGF R2 (Phospho-Tyr1054)	8.419	10.067	0.836	9.267	8.783	1.055	1.799	0.411	4.382
5	PID-596	Raf1 (Phospho-Tyr341)	Raf1 (Ab-341)	390	1271	Raf1 (Phospho-Tyr341)	8.876	10.534	0.843	8.834	8.521	1.037	0.971	0.248	3.918
6	PID-191	SREBP-1 (Phospho-Ser439)	SREBP-1 (Ab-439)	742	460	SREBP-1 (Phospho-Ser439)	7.893	10.921	0.723	8.320	9.458	0.880	1.344	0.363	3.706
7	PID-619	PAK2 (Phospho-Ser192)	PAK2 (Ab-192)	570	1294	PAK2 (Phospho-Ser192)	11.160	10.455	1.067	10.647	8.119	1.311	0.701	0.198	3.539
8	PID-40	Cyclin B1 (Phospho-Ser147)	Cyclin B1 (Ab-147)	562	132	Cyclin B1 (Phospho-Ser147)	9.770	10.504	0.930	9.660	8.652	1.116	0.927	0.277	3.345
9	PID-636	IL-4R/CD124 (Phospho-Tyr497)	IL-4R/CD124 (Ab-497)	270	1311	IL-4R/CD124 (Phospho-Tyr497)	9.740	10.127	0.962	10.566	9.227	1.145	1.773	0.536	3.310
10	PID-544	ALK (Phospho-Tyr1507)	ALK (Ab-1507)	117	1141	ALK (Phospho-Tyr1507)	9.869	8.886	1.111	10.747	8.038	1.337	1.839	0.556	3.310
11	PID-618	PAK1 (Phospho-Ser204)	PAK1 (Ab-204)	569	1293	PAK1 (Phospho-Ser204)	10.196	10.663	0.956	10.355	9.116	1.136	1.116	0.342	3.262
12	PID-476	PDGF R alpha (Phospho-Tyr849)	PDGF R alpha (Ab-849)	1259	978	PDGF R alpha (Phospho-Tyr849)	9.710	11.189	0.868	10.345	10.143	1.020	1.552	0.484	3.206
13	PID-637	ITGB4 (Phospho-Tyr1510)	ITGB4 (Ab-1510)	272	1312	ITGB4 (Phospho-Tyr1510)	9.253	9.660	0.958	9.498	8.239	1.153	1.185	0.373	3.174
14	PID-29	Stathmin 1(Phospho-Ser37)	Stathmin 1(Ab-37)	179	64	Stathmin 1(Phospho-Ser37)	8.360	8.916	0.938	9.408	8.320	1.131	2.068	0.662	3.125
15	PID-75	AKT (Phospho-Ser473)	AKT (Ab-473)	320	205	AKT (Phospho-Ser473)	8.777	9.035	0.971	9.760	8.390	1.163	1.977	0.640	3.091
16	PID-615	MKK7/MAP2K7 (Phospho-Ser271)	MKK7/MAP2K7 (Ab-271)	412	1290	MKK7/MAP2K7 (Phospho-Ser271)	10.147	9.819	1.033	10.314	8.481	1.216	1.123	0.396	2.839
17	PID-6	c-Jun (Phospho-Tyr170)	c-Jun (Ab-170)	156	41	c-Jun (Phospho-Tyr170)	8.548	9.968	0.858	9.871	9.821	1.005	2.501	0.903	2.770
18	PID-21	Pyk2 (Phospho-Tyr402)	Pyk2 (Ab-402)	170	56	Pyk2 (Phospho-Tyr402)	9.333	9.343	0.999	9.770	8.350	1.170	1.354	0.503	2.695
19	PID-340	ACC1 (Phospho-Ser79)	ACC1 (Ab-79)	1225	761	ACC1 (Phospho-Ser79)	9.303	9.909	0.939	9.529	8.713	1.094	1.169	0.437	2.679
20	PID-200	ATF-1 (Phospho-Ser63)	ATF-1 (Ab-63)	748	469	ATF-1 (Phospho-Ser63)	7.933	10.723	0.740	8.310	9.740	0.853	1.299	0.506	2.566
21	PID-638	Kv1.3/KCNA3 (Phospho-Tyr135)	Kv1.3/KCNA3 (Ab-135)	273	1313	Kv1.3/KCNA3 (Phospho-Tyr135)	10.395	9.233	1.126	10.868	8.360	1.300	1.388	0.546	2.543
22	PID-97	Ras-GRF1 (Phospho-Ser916)	Ras-GRF1 (Ab-916)	738	284	Ras-GRF1 (Phospho-Ser916)	8.330	10.187	0.818	9.116	9.720	0.938	1.724	0.724	2.382
23	PID-498	AFX/FOXO4 (Phospho-Ser197)	AFX/FOXO4 (Ab-197)	998	1038	AFX/FOXO4 (Phospho-Ser197)	9.114	10.524	0.866	9.579	9.740	0.983	1.380	0.581	2.376
24	PID-254	HSL (Phospho-Ser554)	HSL (Ab-554)	1216	599	HSL (Phospho-Ser554)	9.412	12.222	0.770	9.519	11.150	0.854	1.077	0.476	2.263
25	PID-640	STAM2 (Phospho-Tyr192)	STAM2 (Ab-192)	276	1315	STAM2 (Phospho-Tyr192)	10.445	8.499	1.229	11.140	8.018	1.389	1.620	0.717	2.260
26	PID-534	SRF (Phospho-Ser77)	SRF (Ab-77)	404	1131	SRF (Phospho-Ser77)	9.154	10.117	0.905	9.871	9.660	1.022	1.644	0.728	2.257
27	PID-74	ATF4 (Phospho-Ser245)	ATF4 (Ab-245)	319	204	ATF4 (Phospho-Ser245)	8.916	8.816	1.011	9.992	8.723	1.145	2.109	0.937	2.250
28	PID-211	Integrin beta-3 (Phospho-Tyr773)	Integrin beta-3 (Ab-773)	478	518	Integrin beta-3 (Phospho-Tyr773)	9.382	10.167	0.923	9.639	9.297	1.037	1.195	0.547	2.184
29	PID-641	FER (Phospho-Tyr402)	FER (Ab-402)	278	1316	FER (Phospho-Tyr402)	11.596	11.289	1.027	11.634	10.204	1.140	1.026	0.471	2.177
30	PID-548	Pim-1 (Phospho-Tyr309)	Pim-1 (Ab-309)	121	1145	Pim-1 (Phospho-Tyr309)	8.439	9.859	0.856	8.521	8.834	0.965	1.059	0.491	2.155
31	PID-206	VEGFR2 (Phospho-Tyr1175)	VEGFR2 (Ab-1175)	652	513	VEGFR2 (Phospho-Tyr1175)	10.286	10.445	0.985	10.224	9.307	1.098	0.958	0.455	2.107
32	PID-551	ETK (Phospho-Tyr566)	ETK (Ab-566)	125	1148	ETK (Phospho-Tyr566)	11.199	8.767	1.277	12.409	8.914	1.392	2.314	1.108	2.089
33	PID-578	Src (Phospho-Tyr529)	Src (Ab-529)	1165	1196	Src (Phospho-Tyr529)	9.571	10.286	0.931	9.408	9.065	1.038	0.893	0.429	2.081
34	PID-304	Tau (Phospho-Thr231)	Tau (Ab-231)	826	687	Tau (Phospho-Thr231)	9.611	9.571	1.004	9.760	8.683	1.124	1.109	0.540	2.053
35	PID-545	ALK (Phospho-Tyr1604)	ALK (Ab-1604)	118	1142	ALK (Phospho-Tyr1604)	9.243	10.296	0.898	9.589	9.639	0.995	1.271	0.635	2.003
36	PID-37	eIF4E (Phospho-Ser209)	eIF4E (Ab-209)	187	72	eIF4E (Phospho-Ser209)	9.253	8.906	1.039	9.942	8.602	1.156	1.611	0.810	1.989
37	PID-634	IL-10R-A (Phospho-Tyr496)	IL-10R-A (Ab-496)	268	1309	IL-10R-A (Phospho-Tyr496)	10.375	9.849	1.053	10.294	8.783	1.172	0.945	0.478	1.979
38	PID-92	P38 MAPK (Phospho-Tyr182)	P38 MAPK (Ab-182)	338	222	P38 MAPK (Phospho-Tyr182)	8.350	11.517	0.725	8.693	10.888	0.798	1.268	0.647	1.961
39	PID-315	Rb (Phospho-Ser780)	Rb (Ab-780)	995	698	Rb (Phospho-Ser780)	8.717	10.127	0.861	9.478	9.922	0.955	1.695	0.867	1.954
40	PID-181	Caspase 9 (Phospho-Ser196)	Caspase 9 (Ab-196)	1075	450	Caspase 9 (Phospho-Ser196)	10.435	12.162	0.858	11.120	11.896	0.935	1.608	0.831	1.934
41	PID-556	HCK (Phospho-Tyr410)	HCK (Ab-410)	130	1153	HCK (Phospho-Tyr410)	10.276	14.029	0.732	11.140	13.951	0.799	1.821	0.947	1.922
42	PID-479	P2A/DNA topoisomerase II (Phospho-Ser111)	P2A/DNA topoisomerase II (Ab-111)	1262	981	P2A/DNA topoisomerase II (Phospho-Ser111)	8.310	10.018	0.830	8.350	9.126	0.915	1.028	0.539	1.908
43	PID-550	BCR (Phospho-Tyr360)	BCR (Ab-360)	123	1147	BCR (Phospho-Tyr360)	9.273	8.370	1.108	9.770	7.988	1.223	1.412	0.767	1.840

Phosphorylation Ratio는 Phospho Explorer Antibody array를 진행하셨을때 가능합니다.

Hierarchical clustering (HCL)



Analysis tool

- MeV

Clustered samples

Clustered genes

Distance metric

- Euclidean distance

Gene ontology (GO)

GO classification (Panther GO)

GO enrichment (DAVID)

GO Biological Process

Total # Genes: 343 Total # process hits: 303

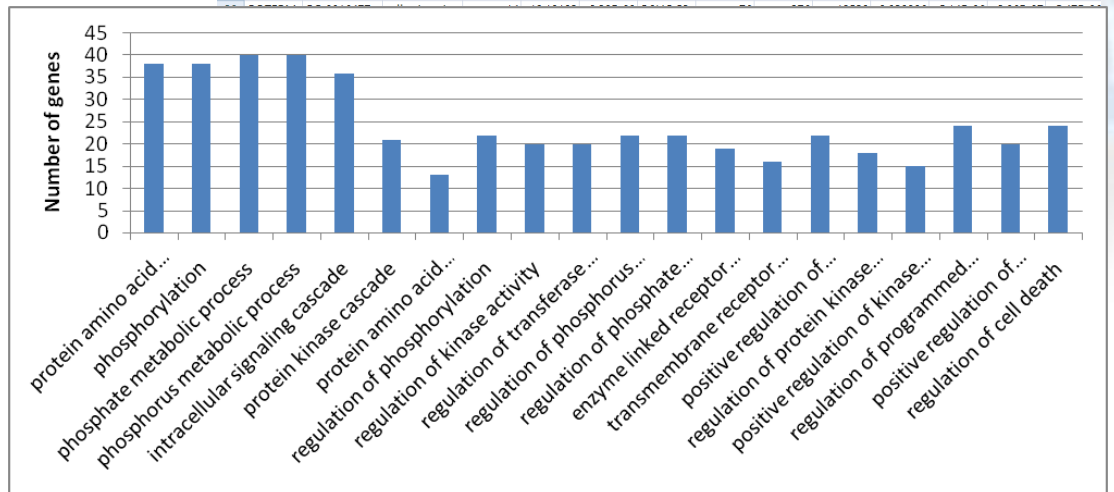


Click to get gene list for a category:

- [apoptotic process \(GO:0006915\)](#)
- [biological regulation \(GO:0065007\)](#)
- [cellular component organization or biogenesis \(GO:0032502\)](#)
- [cellular process \(GO:0009987\)](#)
- [developmental process \(GO:0032502\)](#)
- [localization \(GO:0051179\)](#)
- [metabolic process \(GO:0008152\)](#)
- [response to stimulus \(GO:0050896\)](#)

Color picker powered by Web Colors by VisiBone

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Category	Term	Description	Count	%	PValue	Genes	List Total	Pop Hits	Pop Total	Fold Enric	Bonferron	Benjamini	FDR
2	GOTERM_	GO:0006468	protein amino	38	49.35065	9.20E-29	P24385, P1	76	667	13528	10.14093	1.44E-25	1.44E-25	1.54E-25
3	GOTERM_	GO:0016310	phosphorylati	38	49.35065	6.14E-26	P24385, P1	76	800	13528	8.455	9.63E-23	4.81E-23	1.03E-22
4	GOTERM_	GO:0006796	phosphate me	40	51.94805	3.15E-25	P24385, P1	76	973	13528	7.317575	4.94E-22	1.65E-22	5.26E-22
5	GOTERM_	GO:0006793	phosphorus m	40	51.94805	3.15E-25	P24385, P1	76	973	13528	7.317575	4.94E-22	1.65E-22	5.26E-22
6	GOTERM_	GO:0007242	intracellular si	36	46.75325	3.17E-17	P24385, P1	76	1256	13528	5.101911	4.97E-14	1.24E-14	5.30E-14
7	GOTERM_	GO:0007243	protein kinase	21	27.27273	6.68E-15	P49137, Q	76	370	13528	10.1027	1.04E-11	2.09E-12	1.11E-11
8	GOTERM_	GO:0046777	protein amino	13	16.88312	3.22E-14	P36888, Q	76	85	13528	27.22353	5.05E-11	8.41E-12	5.38E-11
9	GOTERM_	GO:0042325	regulation of	22	28.57143	4.60E-14	O14757, P	76	466	13528	8.403433	7.21E-11	1.03E-11	7.68E-11
10	GOTERM_	GO:0043549	regulation of	20	25.97403	4.71E-14	O14757, P	76	357	13528	9.971989	7.38E-11	9.23E-12	7.86E-11
11	GOTERM_	GO:0051338	regulation of	20	25.97403	9.90E-14	O14757, P	76	372	13528	9.569892	1.55E-10	1.73E-11	1.65E-10
12	GOTERM_	GO:0051174	regulation of	22	28.57143	1.00E-13	O14757, P	76	485	13528	8.074227	1.58E-10	1.58E-11	1.68E-10
13	GOTERM_	GO:0019220	regulation of	22	28.57143	1.00E-13	O14757, P	76	485	13528	8.074227	1.58E-10	1.58E-11	1.68E-10
14	GOTERM_	GO:0007167	enzyme linkec	19	24.67532	2.94E-13	P36888, P1	76	342	13528	9.888889	4.62E-10	4.20E-11	4.92E-10
15	GOTERM_	GO:0007169	transmembran	16	20.77922	1.14E-12	P36888, P1	76	224	13528	12.71429	1.79E-09	1.49E-10	1.91E-09
16	GOTERM_	GO:0044093	positive regul	22	28.57143	3.86E-12	P24385, P1	76	586	13528	6.682594	6.06E-09	4.66E-10	6.46E-09
17	GOTERM_	GO:0045859	regulation of	18	23.37662	4.27E-12	O14757, P	76	345	13528	9.286957	6.70E-09	4.78E-10	7.13E-09
18	GOTERM_	GO:0033674	positive regul	15	19.48052	2.69E-11	P24385, Q	76	231	13528	11.55844	4.22E-08	2.82E-09	4.50E-08
19	GOTERM_	GO:0043067	regulation of	24	31.16883	3.54E-11	P06239, P1	76	812	13528	5.261084	5.55E-08	3.47E-09	5.91E-08
20	GOTERM_	GO:0043085	positive regul	20	25.97403	3.61E-11	P24385, P1	76	520	13528	6.846154	5.66E-08	3.33E-09	6.03E-08
21	GOTERM_	GO:0010941	regulation of	24	31.16883	3.81E-11	P06239, P1	76	815	13528	5.241718	5.97E-08	3.32E-09	6.36E-08
22	GOTERM_	GO:0051347	positive regul	15	19.48052	4.50E-11	P24385, Q	76	240	13528	11.125	7.05E-08	3.71E-09	7.51E-08
23	GOTERM_	GO:0001165	MAPKKK casc	13	16.88312	3.47E-10	P49137, Q	76	184	13528	12.57609	5.43E-07	2.72E-08	5.79E-07
24	GOTERM_	GO:0042127	regulation of	22	28.57143	9.32E-10	O14757, P	76	787	13528	4.975858	1.46E-06	6.96E-08	1.56E-06
25	GOTERM_	GO:0042981	regulation of	22	28.57143	1.37E-09	P06239, P1	76	804	13528	4.870647	2.15E-06	9.77E-08	2.29E-06
26	GOTERM_	GO:0002521	leukocyte diff	11	14.28571	2.49E-09	P10721, P1	76	131	13528	14.94656	3.91E-06	1.70E-07	4.17E-06
27	GOTERM_	GO:0045860	positive regul	13	16.88312	3.14E-09	P24385, Q	76	223	13528	10.37668	4.92E-06	2.05E-07	5.24E-06



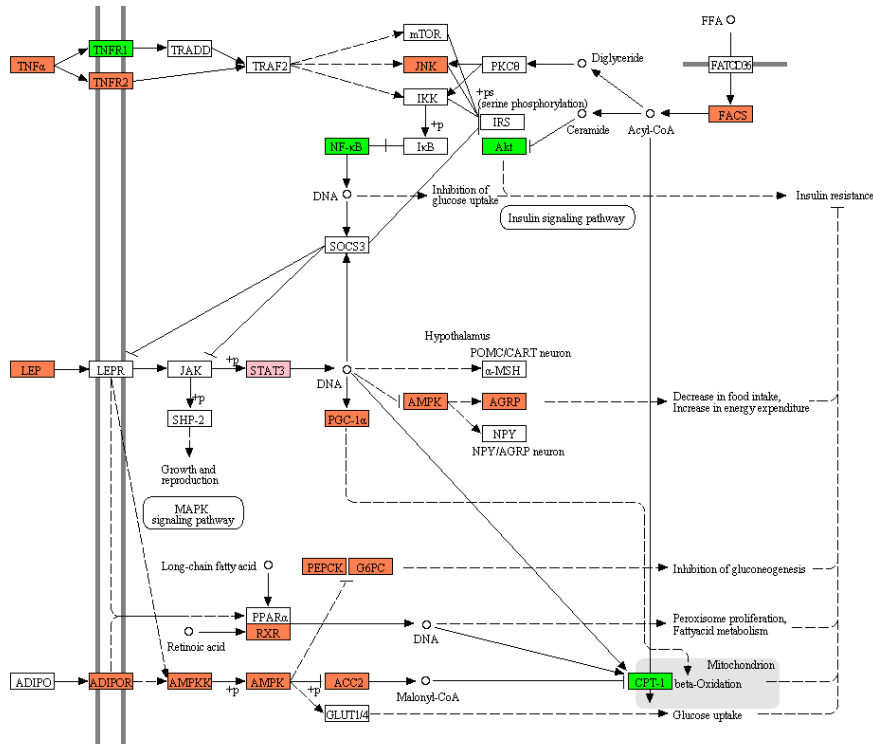
**Chart tooltips are read as: Category name (Accession); # genes; Percent of gene hit against total # genes; Percent of gene hit against total # Process hits

Pathway (KEGG)

KEGG pathway mapping (KEGG)

KEGG pathway enrichment (David)

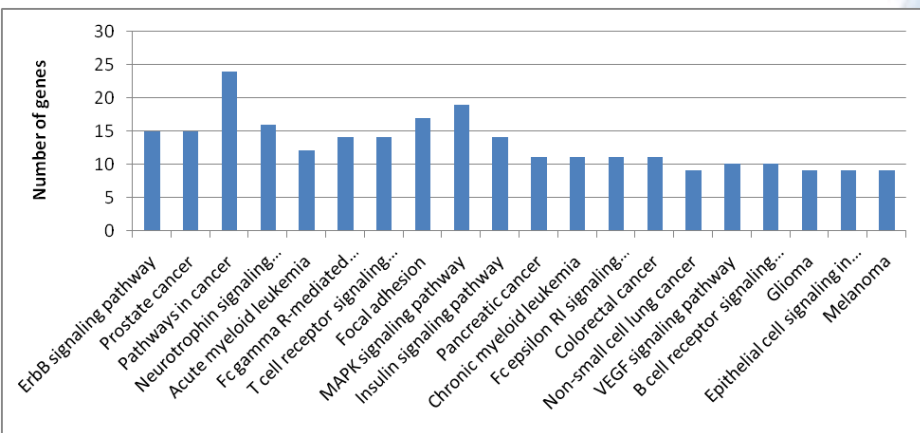
ADIPOCYTOKINE SIGNALING PATHWAY



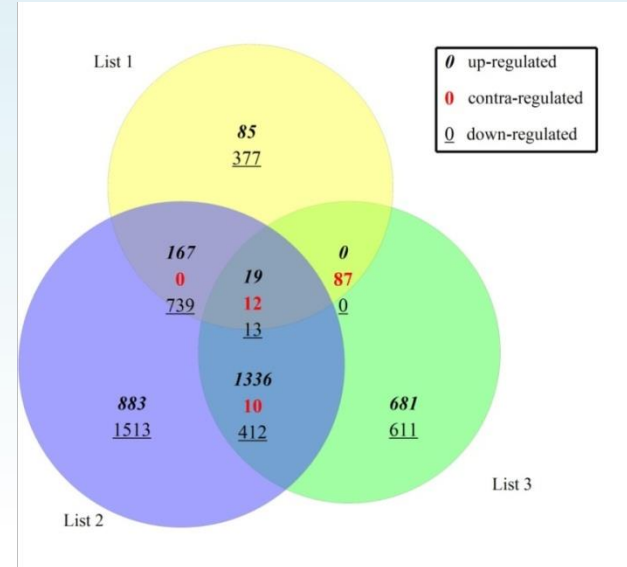
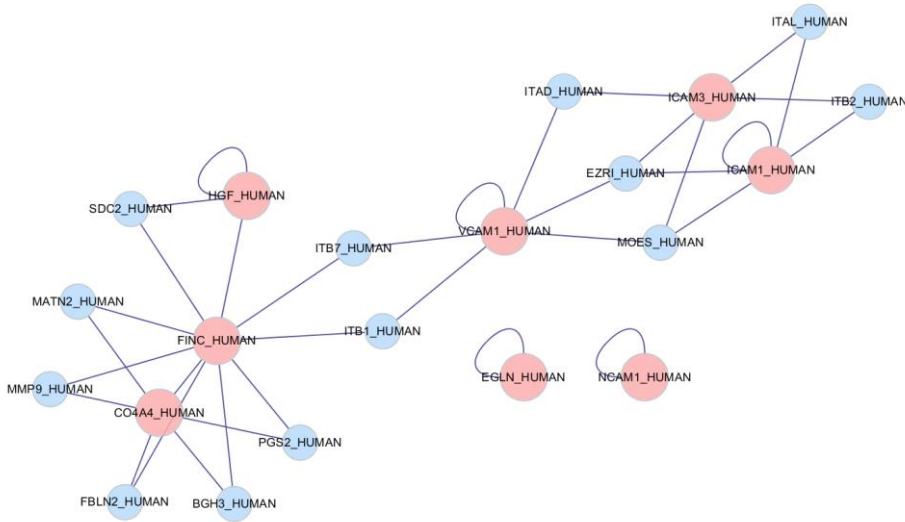
Red: up-regulated genes

Blue: down-regulated genes

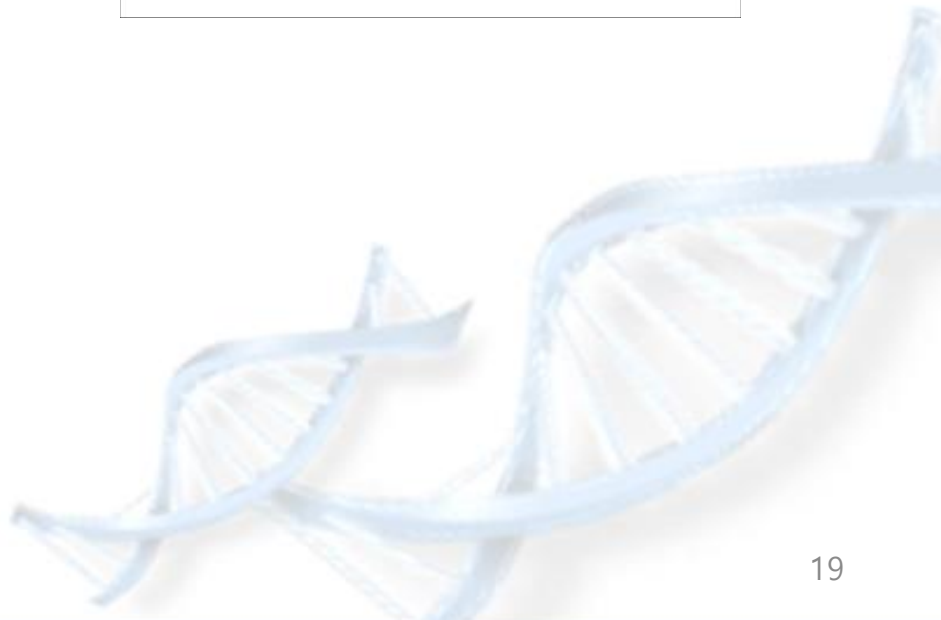
	A	B	C	D	E	F	G	H	I	J	K	L	M	N
	Category	Term	Pathway	Count	%	PValue	Genes	List Total	Pop Hits	Pop Total	Fold Enrich	Bonferroni	Benjamini	FDR
1	KEGG_PATHsa04012	ErbB signaling pa		15	19.48052	4.55E-12	Q13153, P	70	87	5085	12.52463	3.9E-10	3.9E-10	4.92E-09
2	KEGG_PATHsa05215	Prostate cancer		15	19.48052	6.29E-12	P24385, Q	70	89	5085	12.24318	5.48E-10	2.74E-10	6.80E-09
3	KEGG_PATHsa05200	Pathways in canc		24	31.16883	1.55E-11	P24385, P	70	328	5085	5.315331	1.34E-09	4.48E-10	1.67E-08
4	KEGG_PATHsa04722	Neurotrophin sig		16	20.77922	5.10E-11	P49137, Q	70	124	5085	9.373272	4.44E-09	1.11E-09	5.51E-08
5	KEGG_PATHsa05221	Acute myeloid le		12	15.58442	1.74E-10	P10721, P	70	58	5085	15.02956	1.51E-08	3.02E-09	1.88E-07
6	KEGG_PATHsa04666	Fc gamma R-med		14	18.18182	2.40E-10	Q9UQC2, P	70	95	5085	10.70526	2.09E-08	3.48E-09	2.59E-07
7	KEGG_PATHsa04660	T cell receptor sig		14	18.18182	1.24E-09	P20963, P	70	108	5085	9.416667	1.08E-07	1.54E-08	1.34E-06
8	KEGG_PATHsa04510	Focal adhesion		17	22.07792	5.90E-09	P24385, Q	70	201	5085	6.143923	5.13E-07	6.41E-08	6.37E-06
9	KEGG_PATHsa04010	MAPK signaling p		19	24.67532	7.98E-09	P49137, P	70	267	5085	5.169342	6.94E-07	7.71E-08	8.62E-06
10	KEGG_PATHsa04910	Insulin signaling		14	18.18182	1.98E-08	P23443, Q	70	135	5085	7.533333	1.72E-06	1.72E-07	2.14E-05
11	KEGG_PATHsa05212	Pancreatic cancer		11	14.28571	2.98E-08	P04637, P	70	72	5085	11.09821	2.60E-06	2.36E-07	3.22E-05
12	KEGG_PATHsa05220	Chronic myeloid		11	14.28571	4.47E-08	P04637, P	70	75	5085	10.65429	3.89E-06	3.24E-07	4.83E-05
13	KEGG_PATHsa04664	Fc epsilon RI sig		11	14.28571	6.57E-08	P04049, Q	70	78	5085	10.24451	5.71E-06	4.39E-07	7.10E-05
14	KEGG_PATHsa05210	Colorectal cancer		11	14.28571	1.35E-07	P04637, P	70	84	5085	9.512755	1.18E-05	8.40E-07	1.46E-04
15	KEGG_PATHsa05223	Non-small cell lu		9	11.68831	4.81E-07	P04637, P	70	54	5085	12.10714	4.19E-05	2.79E-06	5.20E-04
16	KEGG_PATHsa04370	VEGF signaling p		10	12.98701	5.64E-07	P49137, P	70	75	5085	9.685714	4.91E-05	3.07E-06	6.10E-04
17	KEGG_PATHsa04662	B cell receptor sig		10	12.98701	5.64E-07	P04049, P	70	75	5085	9.685714	4.91E-05	3.07E-06	6.10E-04
18	KEGG_PATHsa05214	Glioma		9	11.68831	1.63E-06	P04637, P	70	63	5085	10.37755	1.41E-04	8.32E-06	0.001758
19	KEGG_PATHsa05120	Epithelial cell sig		9	11.68831	2.94E-06	P12931, Q	70	68	5085	9.614496	2.56E-04	1.42E-05	0.003179
20	KEGG_PATHsa05218	Melanoma		9	11.68831	4.10E-06	P04637, P	70	71	5085	9.208249	3.57E-04	1.88E-05	0.00443
21	KEGG_PATHsa05213	Endometrial canc		8	10.38961	5.12E-06	P04637, P	70	52	5085	11.17582	4.46E-04	2.23E-05	0.005539
22	KEGG_PATHsa05222	Small cell lung ca		9	11.68831	1.46E-05	P04637, P	70	84	5085	7.783163	0.00127	6.05E-05	0.015781
23	KEGG_PATHsa04210	Apoptosis		9	11.68831	1.90E-05	P04637, Q	70	87	5085	7.514778	0.001647	7.49E-05	0.02048
24	KEGG_PATHsa04110	Cell cycle		10	12.98701	4.01E-05	P04637, C	70	125	5085	5.811429	0.003484	1.52E-04	0.043344
25	KEGG_PATHsa04620	Toll-like receptor		9	11.68831	5.64E-05	Q14790, C	70	101	5085	6.473126	0.004893	2.04E-04	0.060912
26	KEGG_PATHsa04810	Regulation of act		12	15.58442	1.25E-04	P04049, P	70	215	5085	4.054485	0.010837	4.36E-04	0.135264
27	KEGG_PATHsa04062	Chemokine signa		11	14.28571	1.83E-04	P04049, P	70	187	5085	4.273109	0.015779	6.12E-04	0.193738
28	KEGG_PATHsa04920	Adipocytokine sig		7	9.090909	2.61E-04	O14920, P	70	67	5085	7.589552	0.022426	8.40E-04	0.281363
29	KEGG_PATHsa04650	Natural killer cell		9	11.68831	3.87E-04	P04049, P	70	133	5085	4.915682	0.033138	0.001203	0.41776

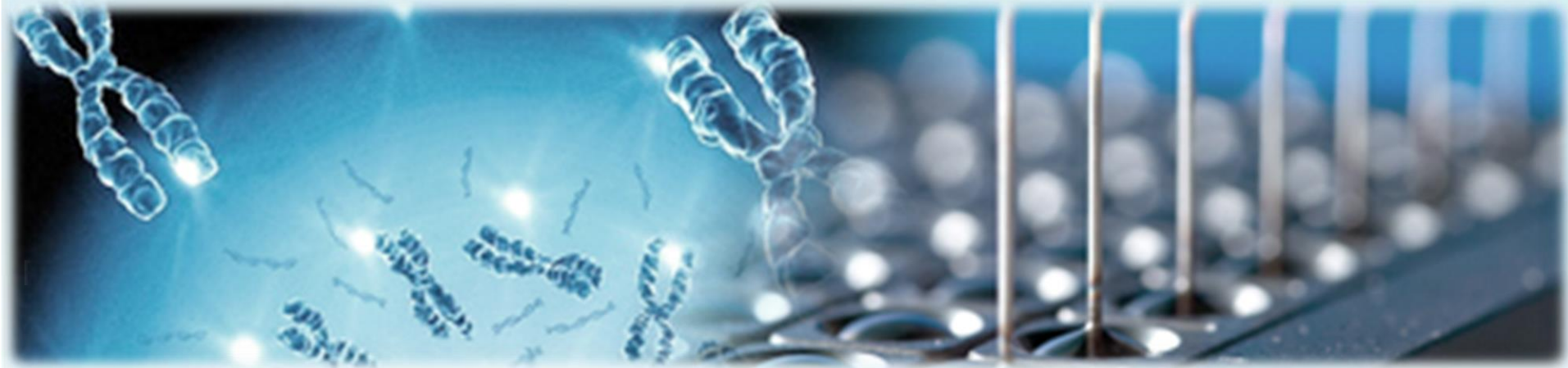


기타 추가 분석



GeneCards® The Human Gene Compendium. WEIZMANN INSTITUTE OF SCIENCE. KENNEX a division of LifeMap SCIENCES. Home, GeneCards Guide, Suite, Terms and Conditions, About Us, User Feedback, Mirror sites. Search the GeneCards human gene database. Search by keyword(s) for [] Search. Advanced Search, About V3 Search. News and Views. Version 3.08, 20 May 2012. New Features: MalaCards alpha, mala.pathways, more RNA genes, mouse/rat products, more... In our pipeline: Improved expression. Collaborations: SvsKid, SPBE/MOPED, RNAcentral, User comments, LifeMap PR. Site Map, 3.06.080 20 Aug 2012, Previous site. Statistics: Total GeneCards genes: 8514, Protein-coding: 2330. Example Genes: ERBB2, SNORA78 (GFTS: 23), small nuclear RNA, HIACA box 78.





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