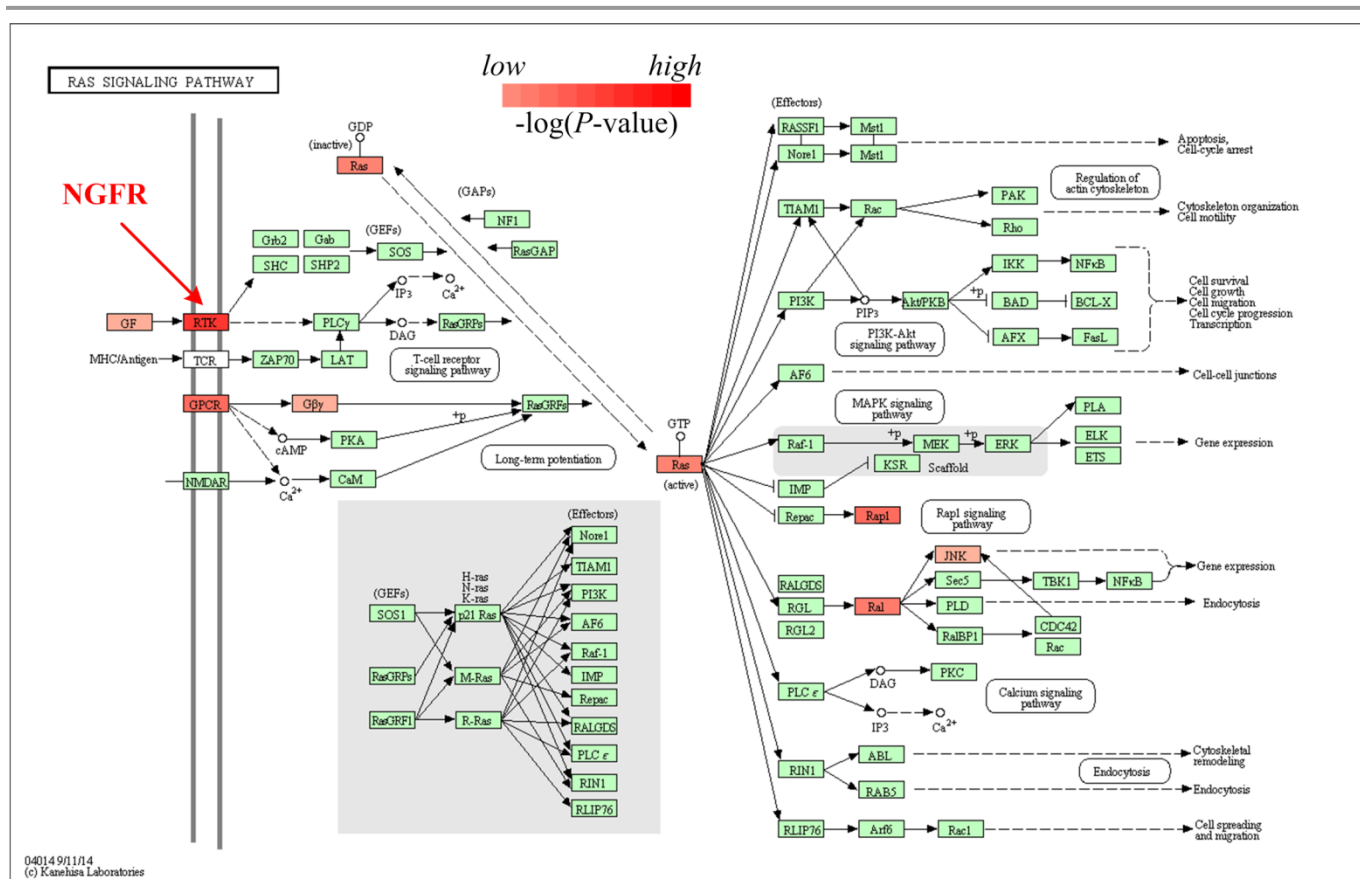


Supplementary Information

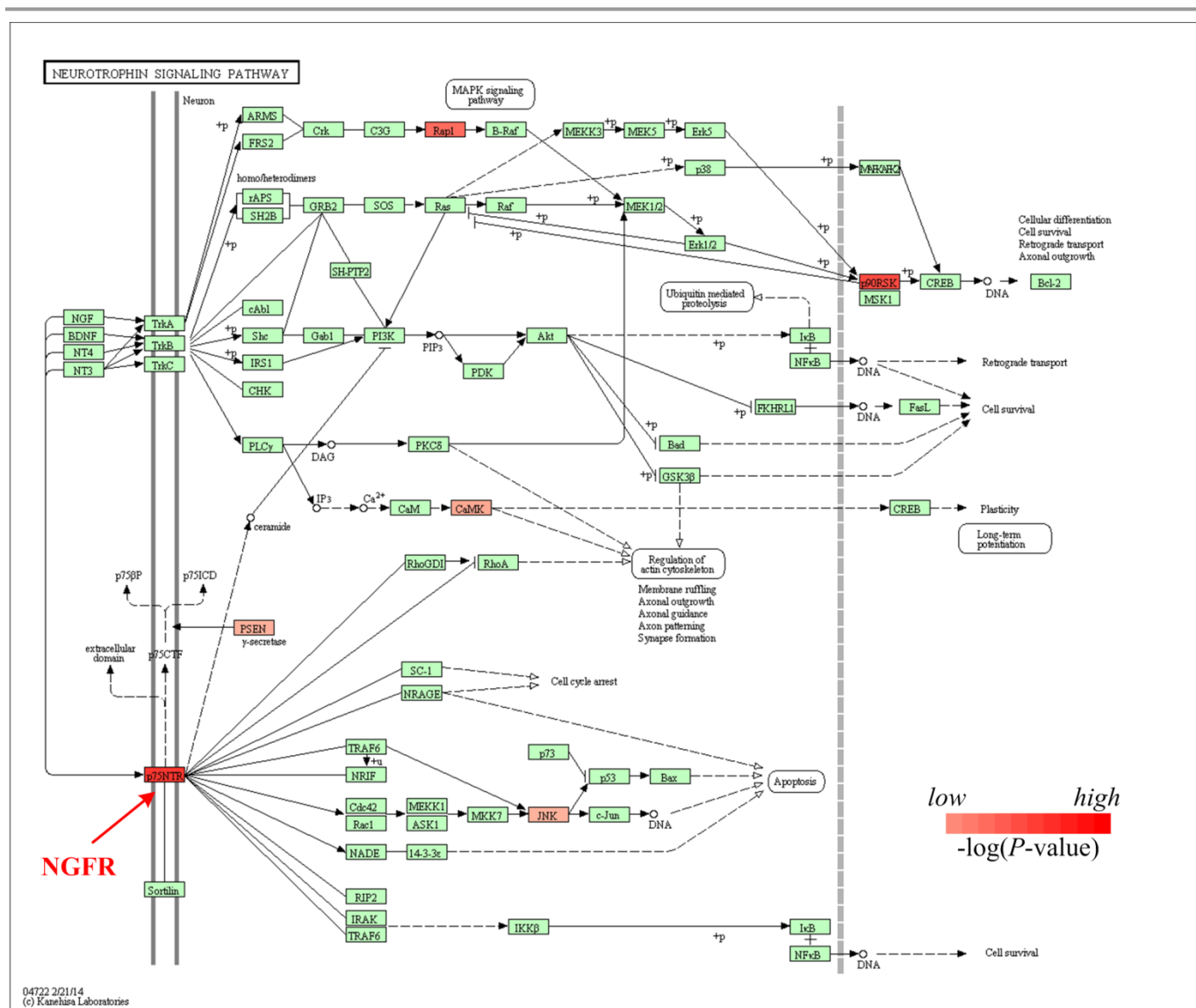
Figure S1~S4



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Gene	Label	P-value	Topological weight	Gene	Label	P-value	Topological weight
NGFR	RTK	5.91E-04	2.3811	22800	Ras	2.34E-03	0.9442
55970	Gβγ	6.11E-03	1.3926	5899	Ral	2.07E-03	0.9243
5906	Rap1	1.53E-03	1.3688	80310	GF	6.09E-03	0.8606
5599	JNK	5.44E-03	1.1506	3363	GPCR	1.53E-03	0.8486
2792	Gβγ	5.23E-03	1.0953	2254	GF	4.97E-03	0.7862
5154	GF	1.36E-03	1.0402	2259	GF	7.06E-03	0.7441
1944	GF	5.15E-03	1.0312	2250	GF	7.13E-03	0.7430

Figure S1. Topological weights of genes in KEGG Ras signaling pathway. NGFR locates at node "RTK". The genes that locate at the upstream of the pathway and affect multiple genes tend to obtain large topological weights.



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Gene	Label	P-value	Topological weight	Gene	Label	P-value	Topological weight
NGFR	RTK	5.91E-04	2.3811	MAPK8	JNK	5.44E-03	1.1506
RAP1A	Rap1	1.53E-03	1.3688	RPS6KA3	P90RSK	8.42E-04	1.0194
CAMK2A	CaMK	4.58E-03	1.2359	PSEN2	PSEN	5.34E-03	0.9022

Figure S2. Topological weights of genes in KEGG Neurotrophin signaling pathway. NGFR locates at node “p75NTR”. The genes that locate at the upstream of the pathway and affect multiple genes tend to obtain large topological weights.

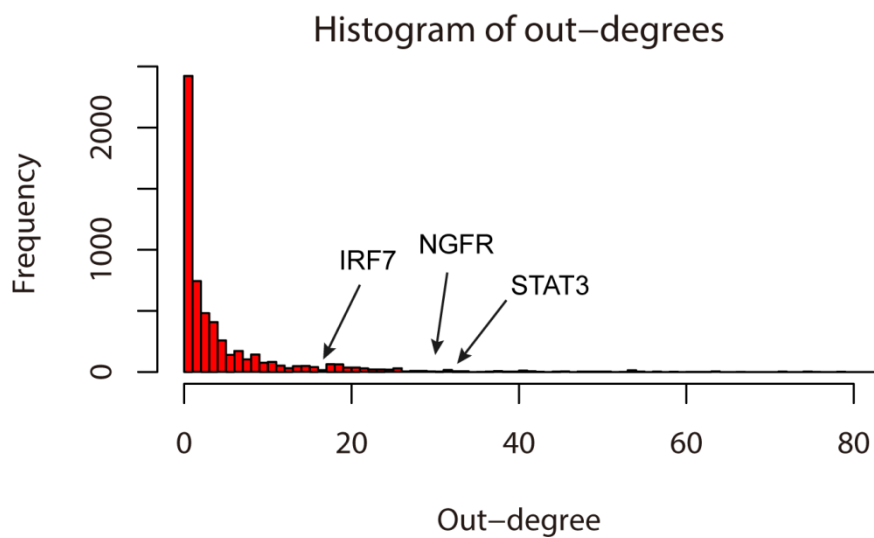


Figure S3. Histogram of out-degrees of genes in the global pathway graph. The out-degrees of the top three genes that receive large topological importance are showed.

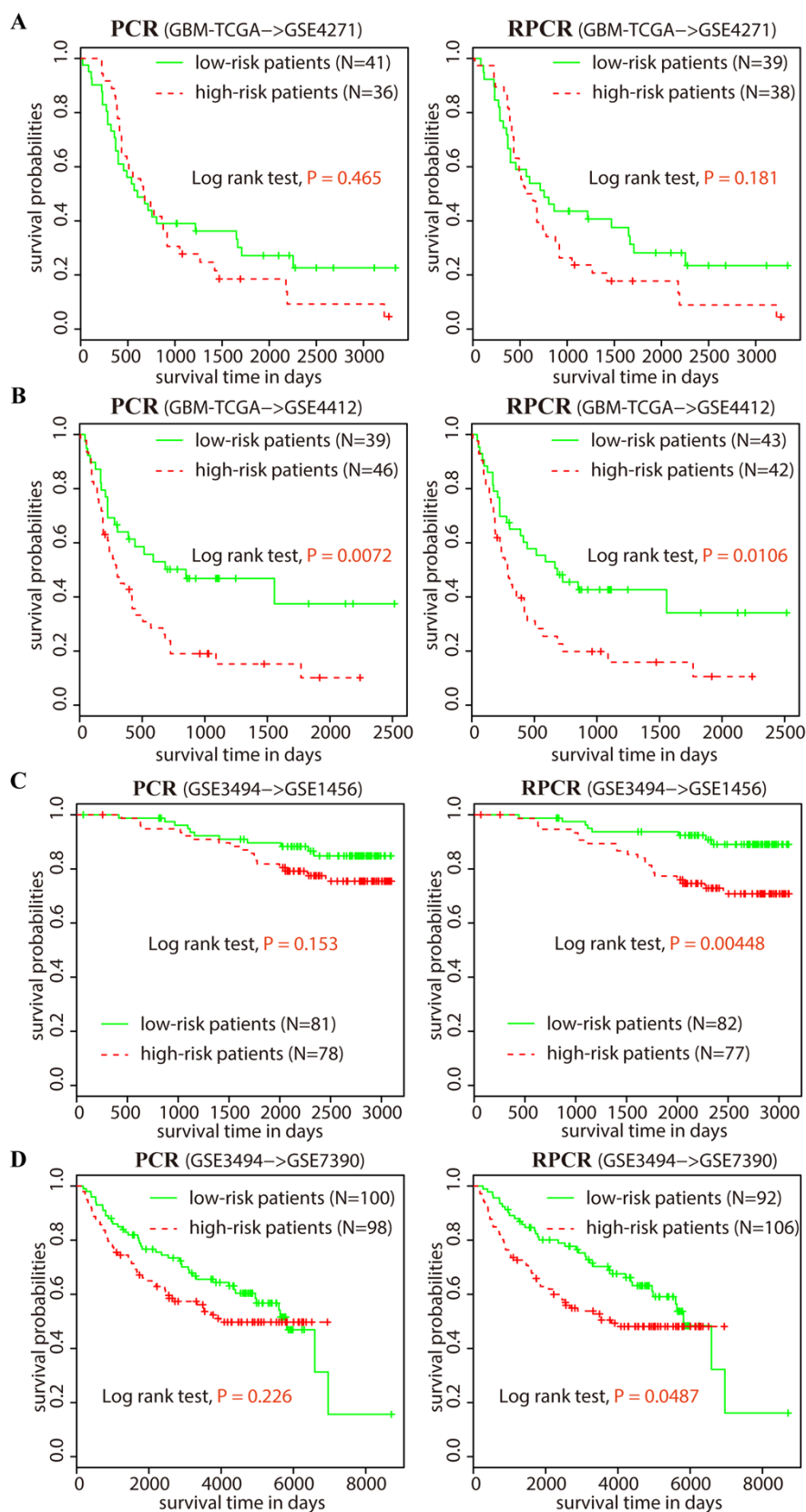


Figure S4. Kaplan-Meier curves for patients stratified by RPCR and PCR with threshold $P < 0.05$.