

**Supplementary Table VIII. Distribution of core rich-club proteins across biological pathways using PantherDB.**

Pathway	Percent genes
<b>Pathways of Cell Death</b>	
Apoptosis signaling pathway (P00006)	5.3%
p53 pathway (P00059)	4.5%
Ras Pathway (P04393)	2.4%
FAS signaling pathway (P00020)	1.7%
JAK/STAT signaling pathway (P00038)	1.4%
p38 MAPK pathway (P05918)	1.2%
<b>Hormone Signaling Pathways</b>	
CCKR signaling map (P06959)	8.4%
Gonadotropin releasing hormone receptor pathway (P06664)	6.5%
<b>Growth Factor Signaling</b>	
Angiogenesis (P00005)	5.3%
EGF receptor signaling pathway (P00018)	4.2%
PDGF signaling pathway (P00047)	4.1%
FGF signaling pathway (P00021)	3.2%
VEGF signaling pathway (P00056)	2.6%
TGF-beta signaling pathway (P00052)	2.3%
Insulin/IGF pathway	1.5%
<b>Immune and Inflammatory Pathways</b>	
Inflammation mediated by chemokine and cytokine signaling pathway (P00031)	7.8%
Interleukin signaling pathway (P00036)	4.7%
Blood coagulation (P00011)	2.9%
Toll receptor signaling pathway (P00054)	2.7%
T cell activation (P00053)	2.7%
B cell activation (P00010)	2.6%
Interferon-gamma signaling pathway (P00035)	1.5%
Plasminogen activating cascade (P00050)	1.5%
Oxidative stress response (P00046)	1.2%
<b>Cell Signaling Pathways</b>	
Heterotrimeric G-protein signaling pathway (P00027)	6.0%
Integrin signalling pathway (P00034)	3.6%
PI3 kinase pathway (P00048)	2.9%
Axon Guidance	2.3%
Endothelin signaling pathway (P00019)	2.3%
Wnt signaling pathway (P00057)	1.4%