Supplemental Table 11. Top Protein Interaction Networks Identified by IPA

Carbon Nanotube/Function	Score*
SWCNT-COOH 500 pg/ml	
Protein Trafficking, Cellular Growth and Proliferation, Gene Expression	24
MWCNT-COOH 500 pg/ml	
Energy Production, Nucleic Acid Metabolism, Small Molecule Biochemistry	49
Cellular Assembly & Organization, Cellular Function & Maintenance, Cellular Development	41
Tumor Morphology, Carbohydrate Metabolism, Hematological System Development & Function	24
Cell Death, Connective Tissue Disorders, Immunological Disease	22
Cellular Movement, Cardiovascular System Development & Function, Cellular Development	18
MWCNT-PVP 500 pg/ml	
Protein Degradation, Protein Synthesis, Cell Death	43
Post-Translational Modification, Protein Folding, Cell Death	40
Cellular Assembly & Organization, Cellular Compromise, Cellular Function & Maintenance	38
Free Radical Scavenging, Cellular Movement, Connective Tissue Development & Function	36
Gene Expression, Cell-To-Cell Signaling, Hematological System Development & Function	29
SWCNT-COOH 10 ug/ml	
Protein Synthesis, Cell Function & Maintenance, Hematological System Development & Function	23
Genetic Disorder, Nutritional Disease, Cell Death	18
Gene Expression, Cancer, Immunological Disease	13
MWCNT-COOH 10 ug/ml	
Protein Synthesis, Cell Death, Cellular Assembly & Organization	30
DNA Replication, Recombination, & Repair, Cell Death, Nervous System Development & Function	26
Cell Cycle, Connective Tissue Development & Function, Cancer	21
MWCNT-PVP 10 ug/ml	
Protein Synthesis, Cellular Growth & Proliferation, Cellular Development	55
Neurological Disease, Cellular Compromise, Protein Synthesis	23
Nutritional Disease, Organismal Injury & Abnormalities, Infectious Disease	21
Cancer, Cellular Growth & Proliferation, Hematological System Development & Function	21
RNA Post-Transcriptional Modification, Dermatological Diseases & Conditions, Infectious Disease	15

Blue scores are down-regulated networks, red scores are up-regulated networks. Combination of Blue/Red signifies up- & down-regulation of various components of the interaction network.

*The score is a numerical value used to rank networks according to their degree of relevance to the Network Eligible Molecules in the protein dataset. The higher the score, the lower the probability of finding the observed number of Network Eligible molecules in a given network by random chance. The network Score is based on the hypergeometric distribution and is calculated with the right-tailed Fisher's Exact Test. The score is the -log(Fisher's Exact test result). For this example, suppose that a network of 35 molecules has a Fisher Exact Test result of 1x10-6. The network's Score = -log(Fisher's Exact test result) = 6. This can be interpreted as, "There is a 1 in a million chance of getting a network containing at least the same number of Network Eligible molecules by chance when randomly picking 35 genes that can be in networks from the Ingenuity Knowledge Base". The score is not an indication of the quality or biological relevance of the network; it simply calculates the approximate "fit" between each network and the Network Eligible Molecules."