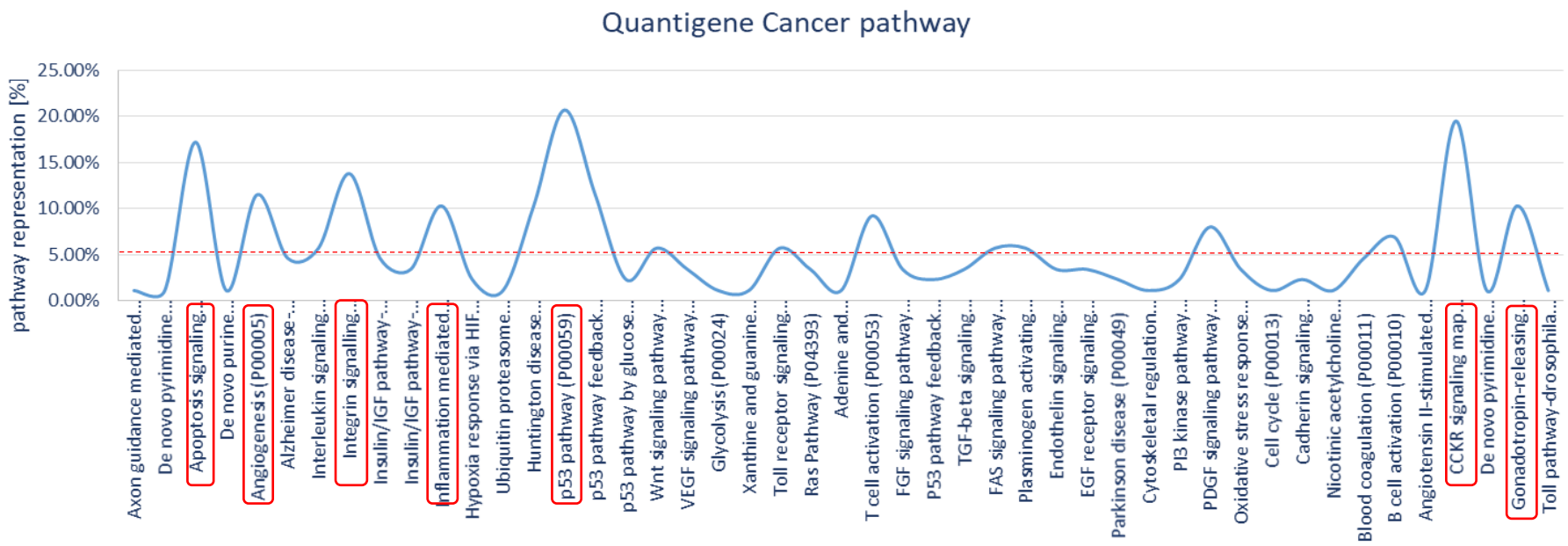
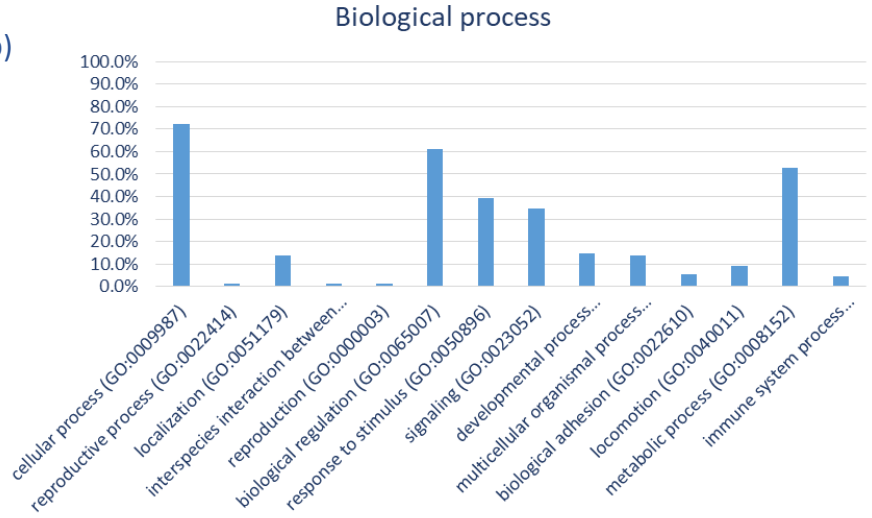
Figure S1

(a)



(b)



(c)

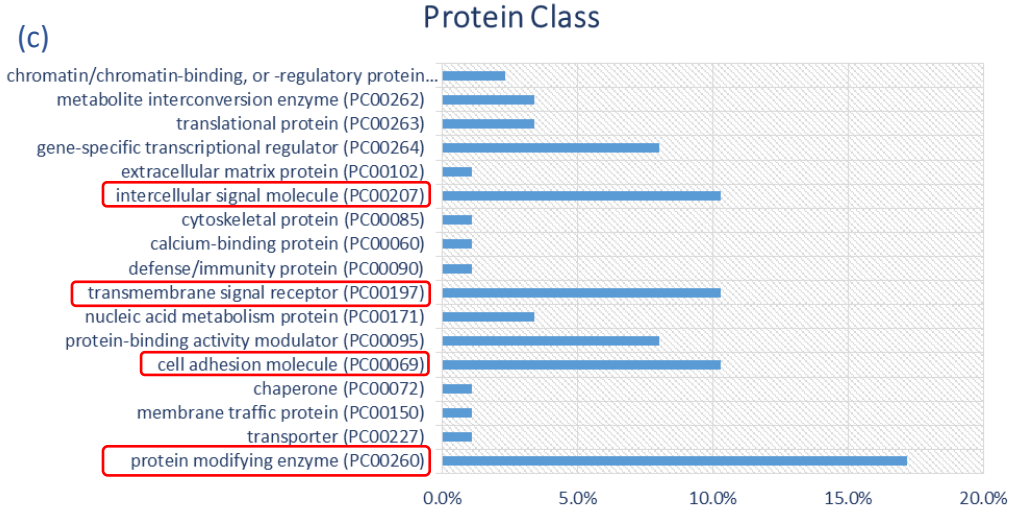


Figure S2

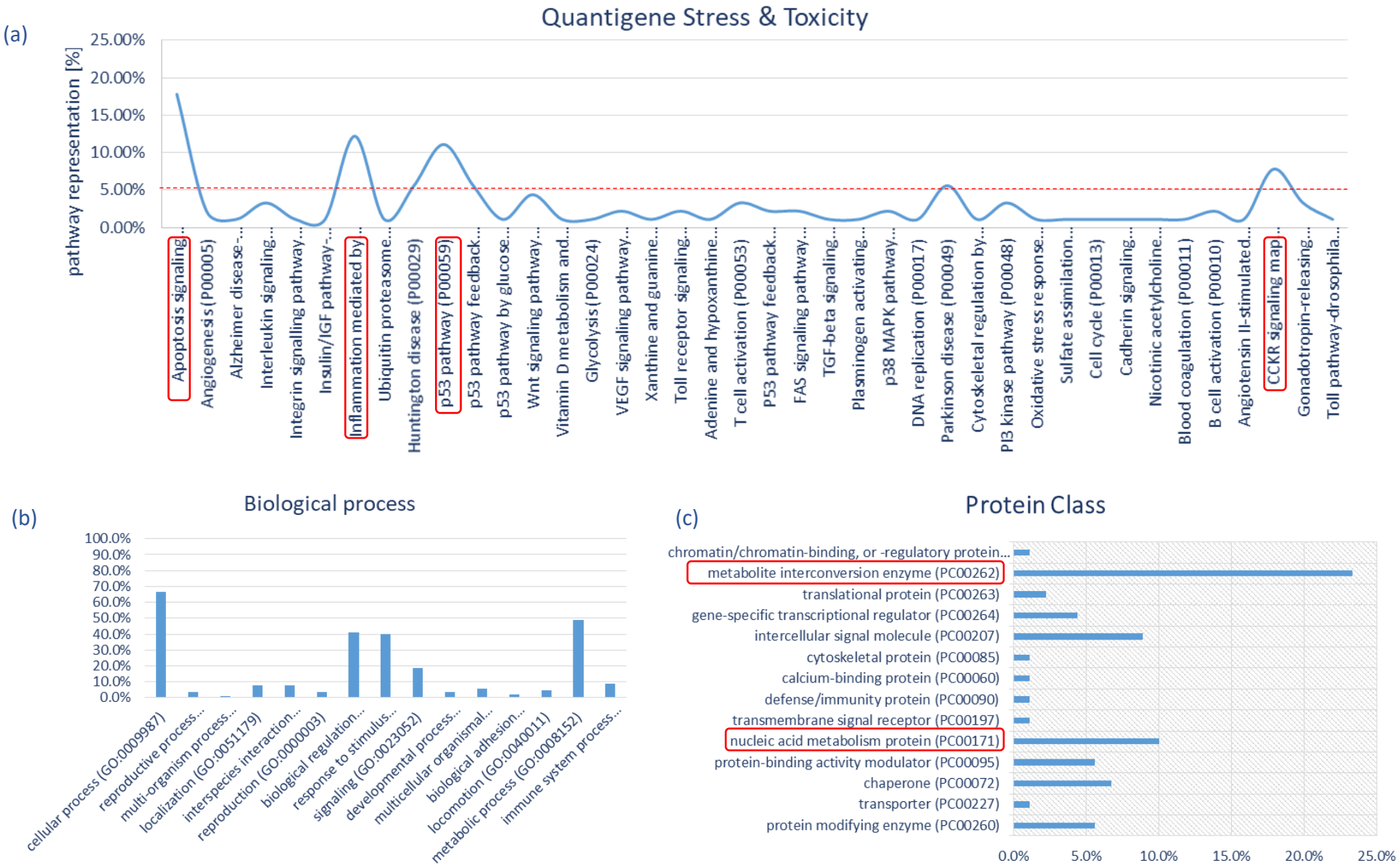
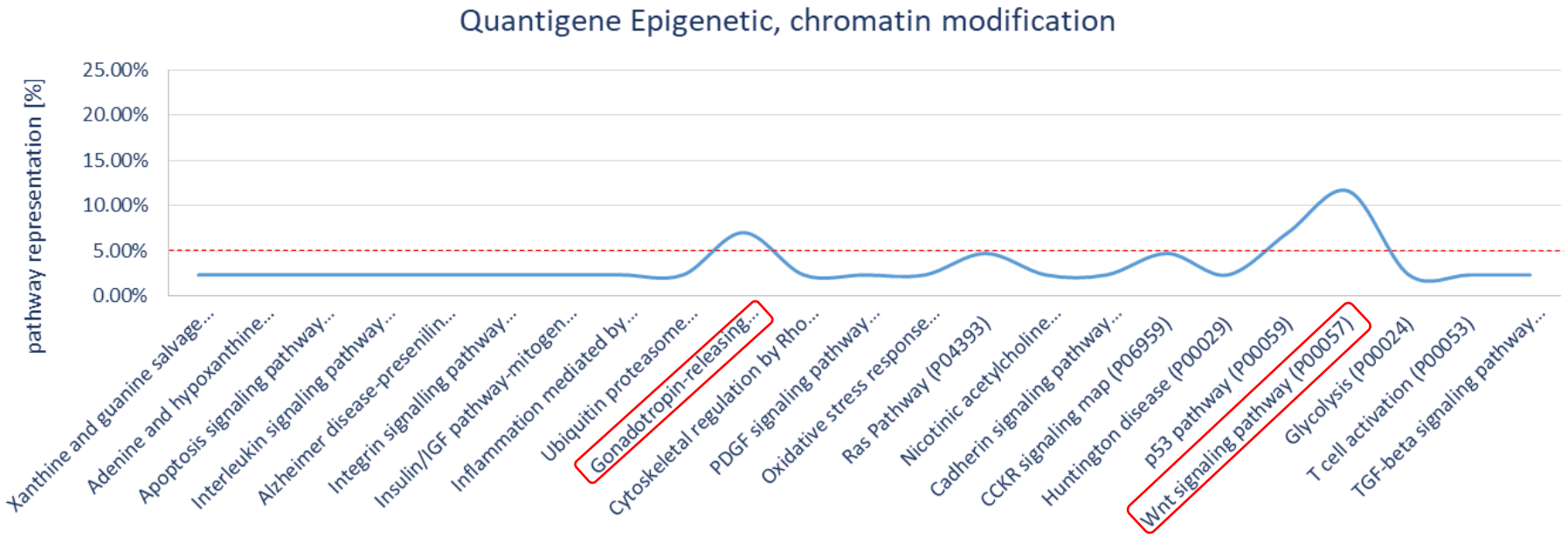
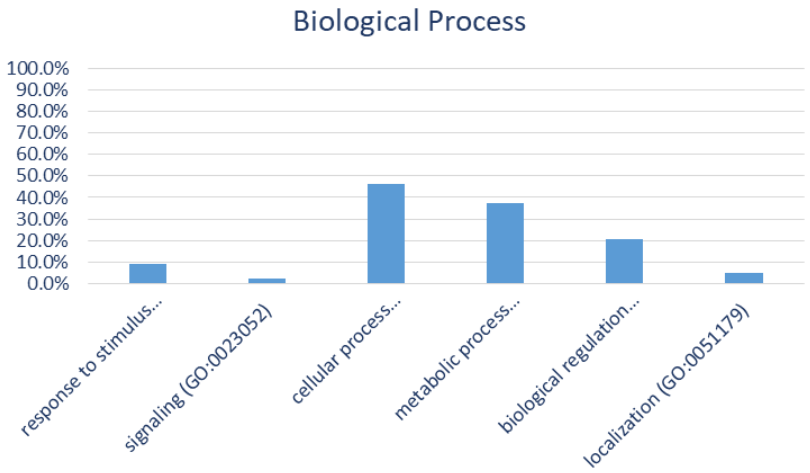

(a)
Quantigene Stress & Toxicity
pathway representation [%]
25.00%
20.00%
15.00%
10.00%
5.00%
0.00%
Apoptosis signaling...
Angiogenesis (P00005)
Alzheimer disease-...
Interleukin signaling...
Integrin signalling pathway...
Insulin/IGF pathway-...
Inflammation mediated by...
Ubiquitin proteasome...
Huntington disease (P00029)
p53 pathway (P00059)
p53 pathway feedback...
p53 pathway by glucose...
Wnt signaling pathway...
Vitamin D metabolism and...
Glycolysis (P00024)
VEGF signaling pathway...
Xanthine and guanine...
Toll receptor signaling...
Adenine and hypoxanthine...
T cell activation (P00053)
P53 pathway feedback...
FAS signaling pathway...
TGF-beta signaling...
Plasminogen activating...
p38 MAPK pathway...
DNA replication (P00017)
Parkinson disease (P00049)
Cytoskeletal regulation by...
PI3 kinase pathway (P00048)
Oxidative stress response...
Sulfate assimilation...
Cell cycle (P00013)
Cadherin signaling...
Nicotinic acetylcholine...
Blood coagulation (P00011)
B cell activation (P00010)
Angiotensin II-stimulated...
CCKR signaling map...
Gonadotropin-releasing...
Toll pathway-drosophila...
(b)
Biological process
100.0%
90.0%
80.0%
70.0%
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
cellular process (GO:0009987)
reproductive process...
multi-organism process...
localization (GO:0051179)
interspecies interaction...
reproduction (GO:0000003)
biological regulation...
response to stimulus...
signaling (GO:0023052)
developmental process...
multicellular organismal...
biological adhesion...
locomotion (GO:0040011)
metabolic process (GO:0008152)
immune system process...
(c)
Protein Class
chromatin/chromatin-binding, or -regulatory protein...
metabolite interconversion enzyme (PC00262)
translational protein (PC00263)
gene-specific transcriptional regulator (PC00264)
intercellular signal molecule (PC00207)
cytoskeletal protein (PC00085)
calcium-binding protein (PC00060)
defense/immunity protein (PC00090)
transmembrane signal receptor (PC00197)
nucleic acid metabolism protein (PC00171)
protein-binding activity modulator (PC00095)
chaperone (PC00072)
transporter (PC00227)
protein modifying enzyme (PC00260)
0.0%
5.0%
10.0%
15.0%
20.0%
25.0%

Figure S3

(a)



(b)



(c)

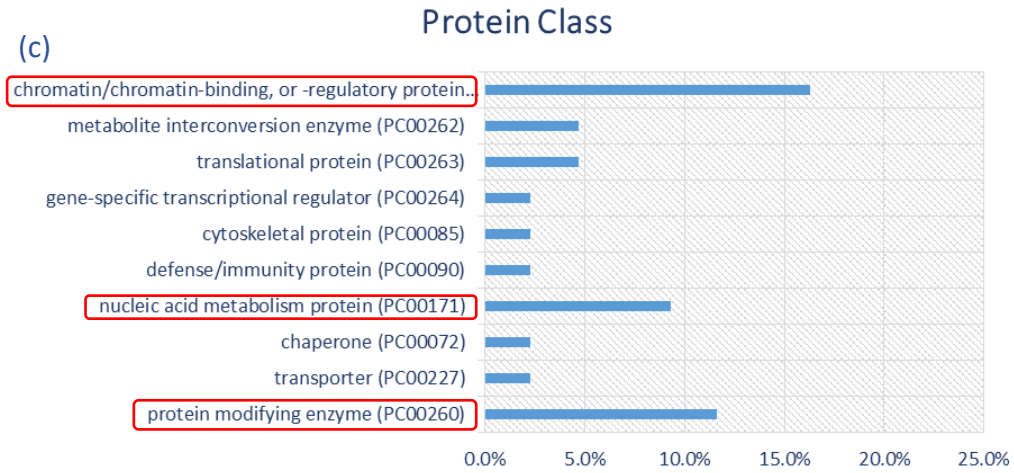
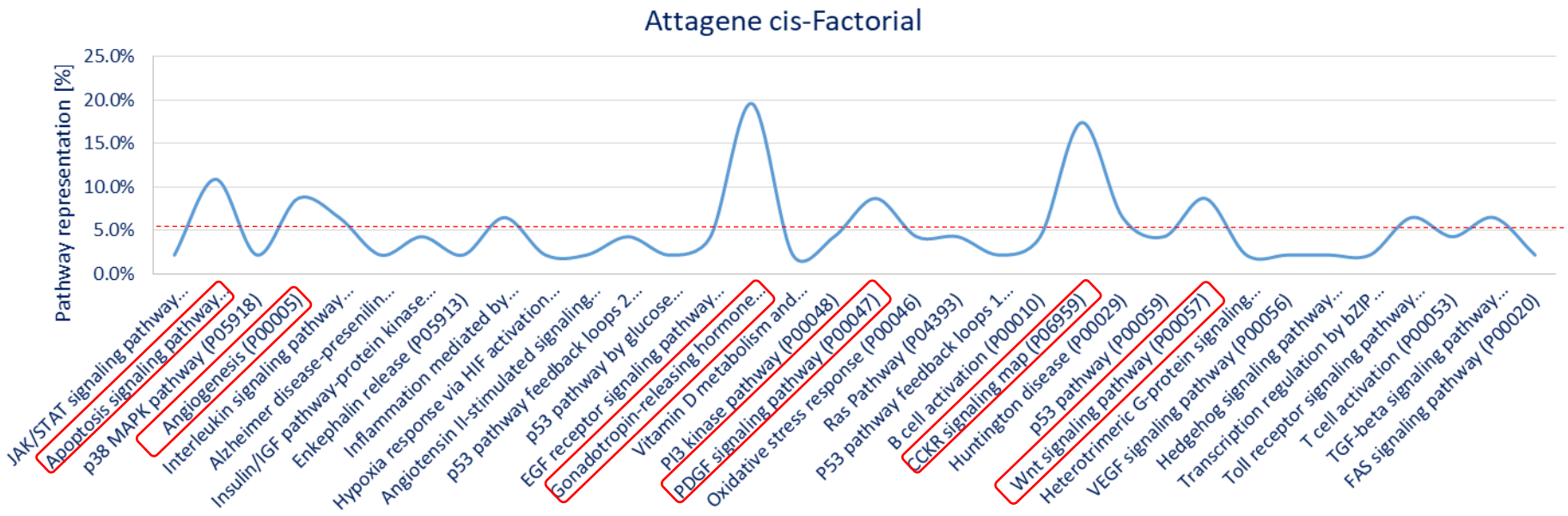
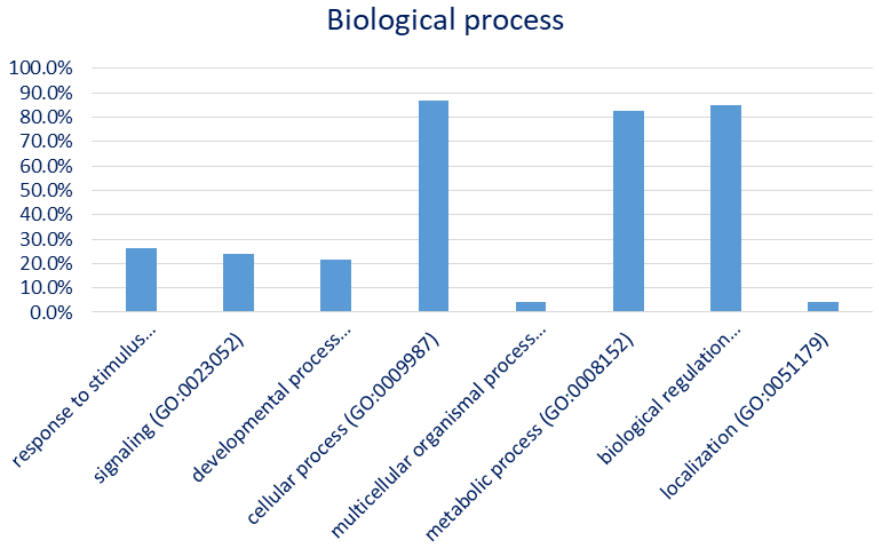


Figure S4

(a)



(b)



(c)

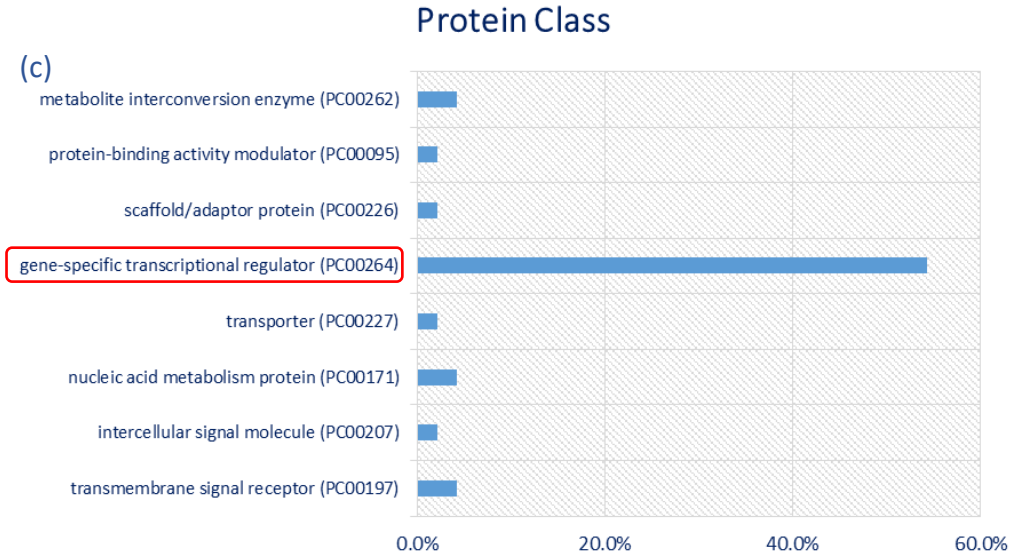
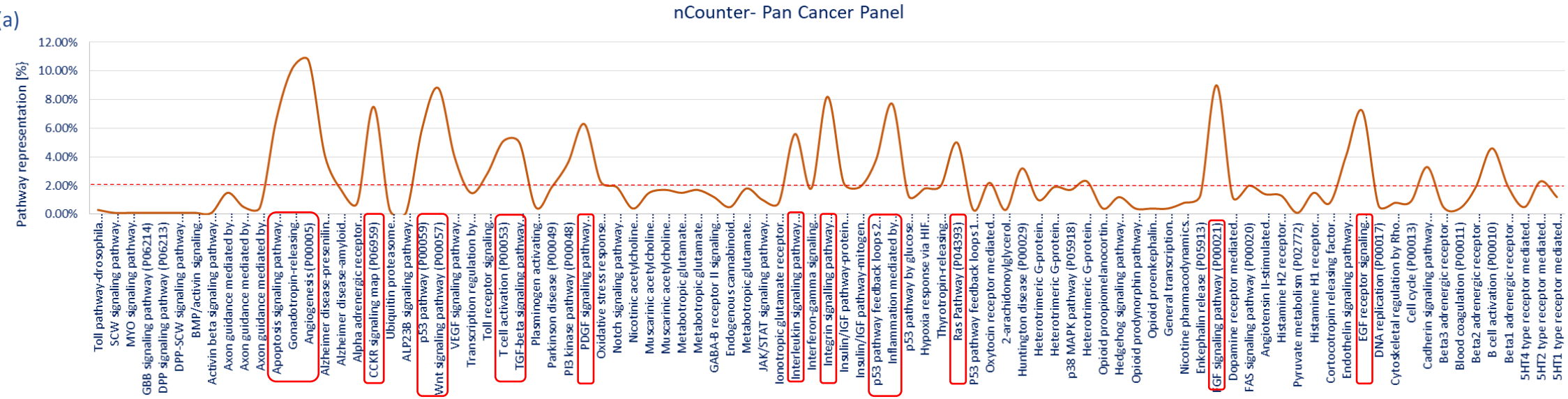
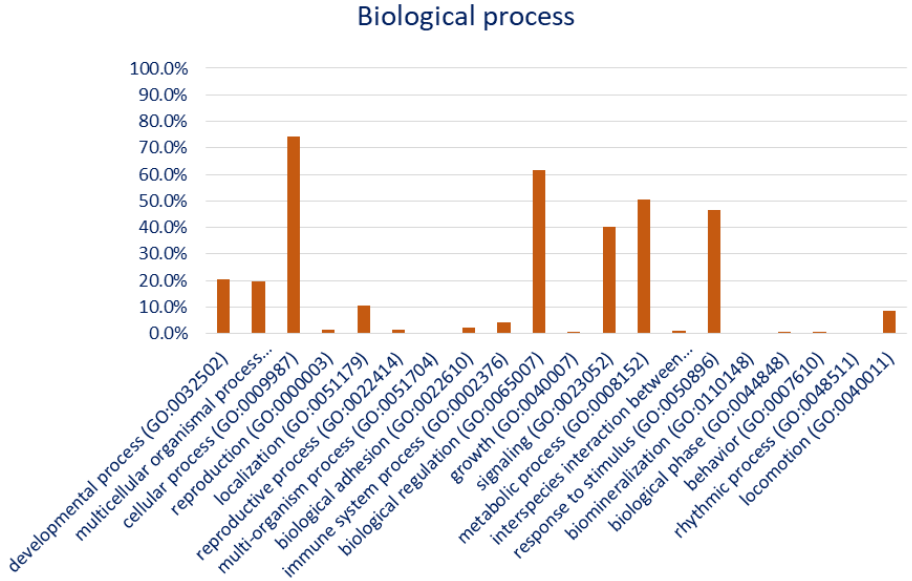


Figure S5

(a)



(b)



(c)

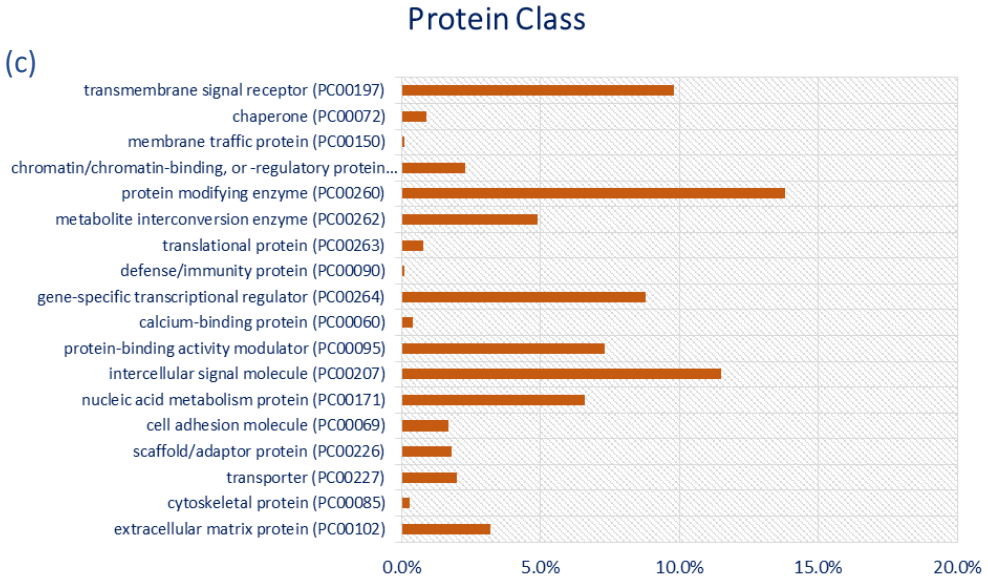
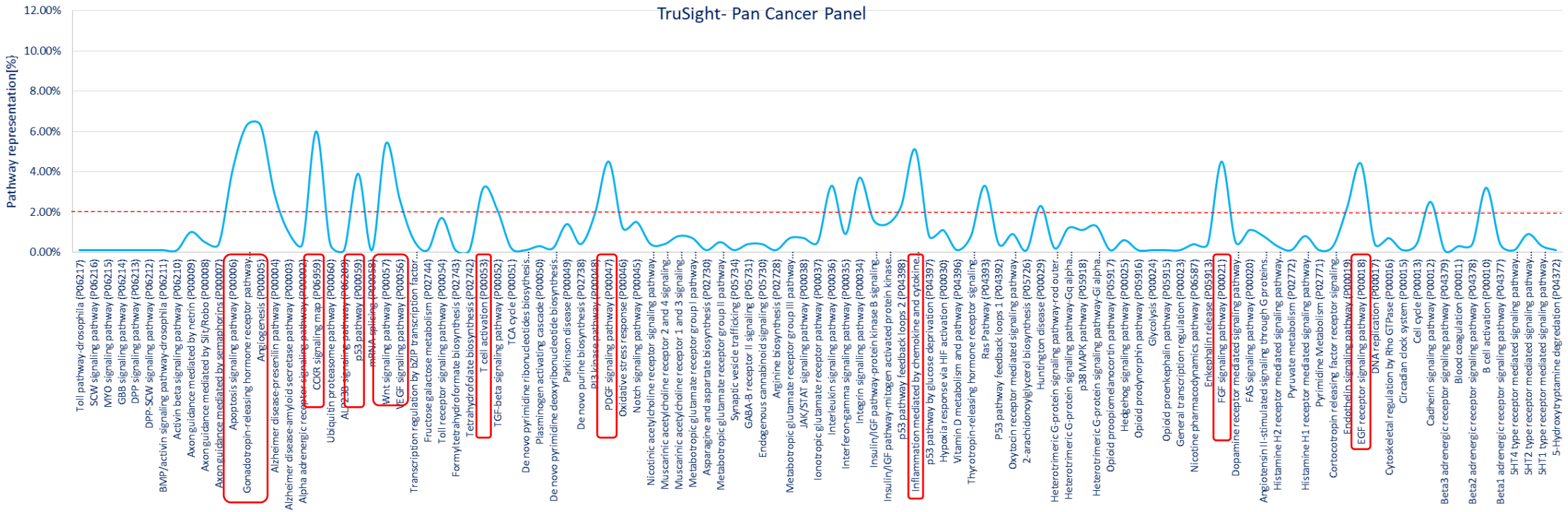
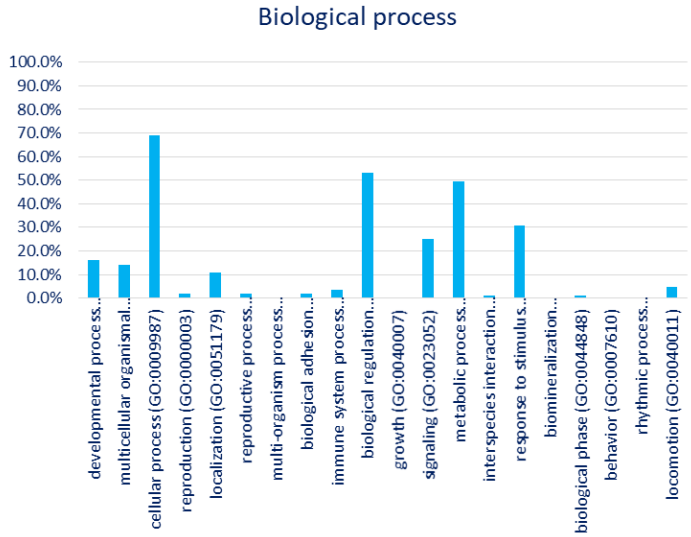


Figure S6

(a)



(b)



(c)

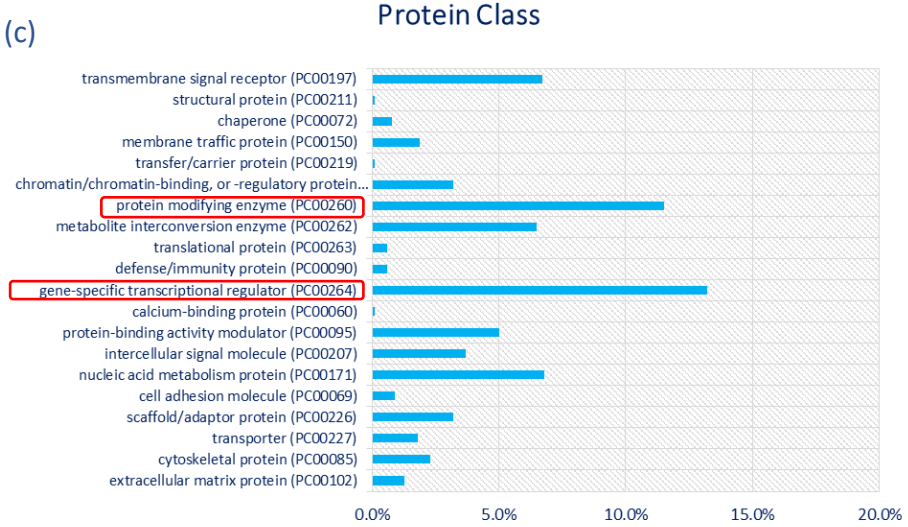
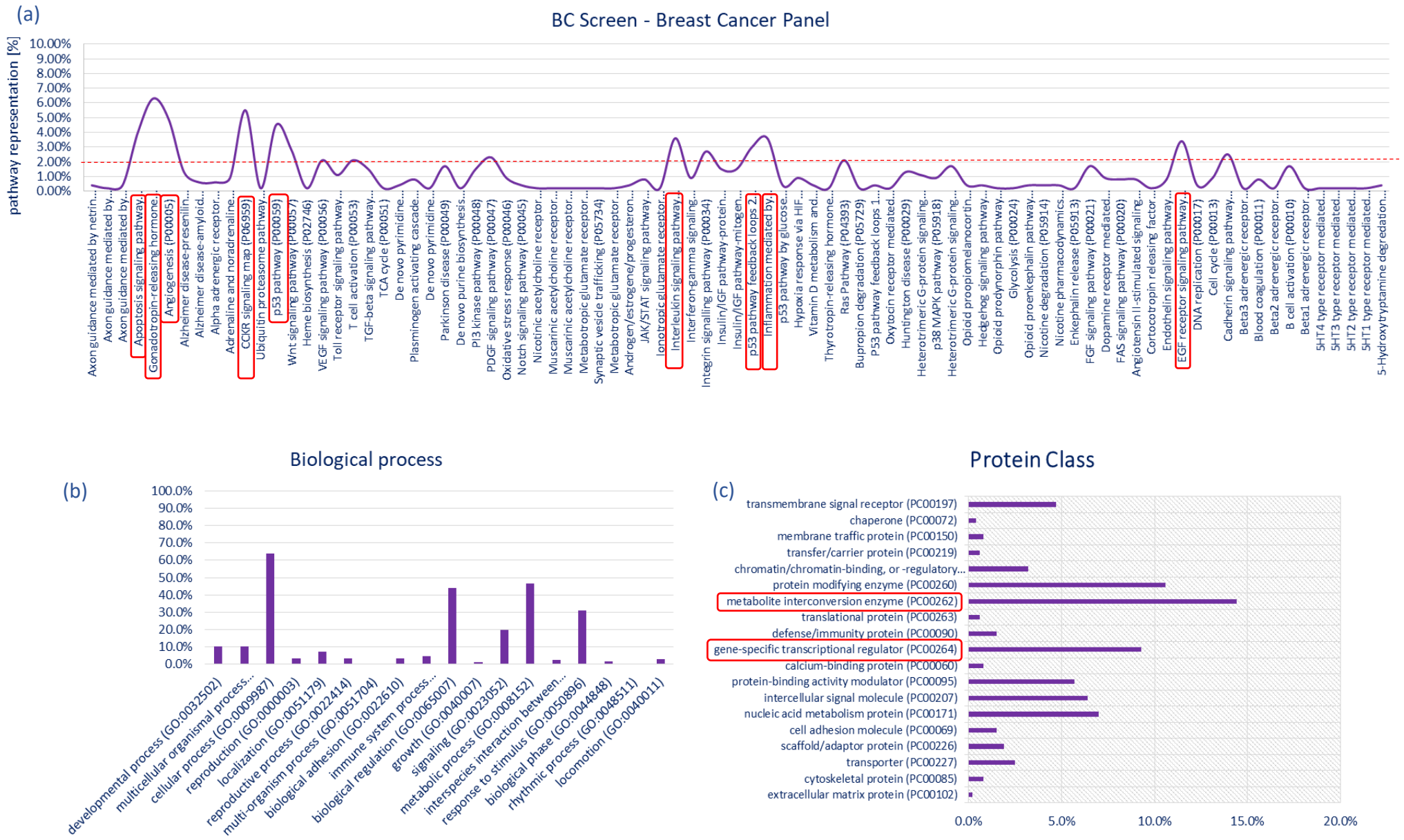


Figure S7


(a)
BC Screen - Breast Cancer Panel
pathway representation [%]
10.00%
9.00%
8.00%
7.00%
6.00%
5.00%
4.00%
3.00%
2.00%
1.00%
0.00%
Axon guidance mediated by netrin...
Axon guidance mediated by...
Axon guidance mediated by...
Apoptosis signaling pathway
Gonadotropin-releasing hormone...
Angiogenesis (P00005)
Alzheimer disease-presenilin...
Alzheimer disease-amyloid...
Alpha adrenergic receptor...
Adrenaline and noradrenaline...
CCKR signaling map (P06959)
Ubiquitin proteasome pathway...
p53 pathway (P00059)
Wnt signaling pathway (P00057)
Heme biosynthesis (P02746)
VEGF signaling pathway (P00056)
Toll receptor signaling pathway...
T cell activation (P00053)
TGF-beta signaling pathway...
TCA cycle (P00051)
De novo pyrimidine...
Plasminogen activating cascade...
De novo pyrimidine...
Parkinson disease (P00049)
De novo purine biosynthesis...
PI3 kinase pathway (P00048)
PDGF signaling pathway (P00047)
Oxidative stress response (P00046)
Notch signaling pathway (P00045)
Nicotinic acetylcholine receptor...
Muscarinic acetylcholine receptor...
Muscarinic acetylcholine receptor...
Metabotropic glutamate receptor...
Synaptic vesicle trafficking (P05734)
Metabotropic glutamate receptor...
Androgen/estrogene/progesteron...
JAK/STAT signaling pathway...
Ionotropic glutamate receptor...
Interleukin signaling pathway...
Interferon-gamma signaling...
Integrin signaling pathway (P00034)
Insulin/IGF pathway-protein...
Insulin/IGF pathway-mitogen...
p53 pathway feedback loops 2...
Inflammation mediated by...
p53 pathway by glucose...
Hypoxia response via HIF...
Vitamin D metabolism and...
Thyrotropin-releasing hormone...
Ras Pathway (P04393)
Bupropion degradation (P05729)
P53 pathway feedback loops 1...
Oxytocin receptor mediated...
Huntington disease (P00029)
Heterotrimeric G-protein signaling...
p38 MAPK pathway (P05918)
Heterotrimeric G-protein signaling...
Opioid proopiomelanocortin...
Hedgehog signaling pathway...
Opioid prodynorphin pathway...
Glycolysis (P00024)
Opioid proenkephalin pathway...
Nicotine degradation (P05914)
Nicotine pharmacodynamics...
Enkephalin release (P05913)
FGF signaling pathway (P00021)
Dopamine receptor mediated...
FAS signaling pathway (P00020)
Angiotensin II-stimulated signaling...
Corticotropin releasing factor...
Endothelin signaling pathway...
EGF receptor signaling pathway...
DNA replication (P00017)
Cell cycle (P00013)
Cadherin signaling pathway...
Beta3 adrenergic receptor...
Blood coagulation (P00011)
Beta2 adrenergic receptor...
B cell activation (P00010)
Beta1 adrenergic receptor...
5HT4 type receptor mediated...
5HT3 type receptor mediated...
5HT2 type receptor mediated...
5HT1 type receptor mediated...
5-Hydroxytryptamine degradation...
Biological process
(b)
100.0%
90.0%
80.0%
70.0%
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
developmental process (GO:0032502)
multicellular organismal process...
cellular process (GO:0009987)
reproduction (GO:0000003)
localization (GO:0051179)
reproductive process (GO:0022414)
multi-organism process (GO:0051704)
biological adhesion (GO:0022610)
immune system process...
biological regulation (GO:0065007)
growth (GO:0040007)
signaling (GO:0023052)
metabolic process (GO:0008152)
interspecies interaction between...
response to stimulus (GO:0050896)
biological phase (GO:0044848)
rhythmic process (GO:0048511)
locomotion (GO:0040011)
Protein Class
(c)
transmembrane signal receptor (PC00197)
chaperone (PC00072)
membrane traffic protein (PC00150)
transfer/carrier protein (PC00219)
chromatin/chromatin-binding, or -regulatory...
protein modifying enzyme (PC00260)
metabolite interconversion enzyme (PC00262)
translational protein (PC00263)
defense/immunity protein (PC00090)
gene-specific transcriptional regulator (PC00264)
calcium-binding protein (PC00060)
protein-binding activity modulator (PC00095)
intercellular signal molecule (PC00207)
nucleic acid metabolism protein (PC00171)
cell adhesion molecule (PC00069)
scaffold/adaptor protein (PC00226)
transporter (PC00227)
cytoskeletal protein (PC00085)
extracellular matrix protein (PC00102)
0.0%
5.0%
10.0%
15.0%
20.0%

Figures S1-S7. ***Classification of proteins and pathways.*** Quantigene (3 panels: cancer pathway, stress & toxicity and epigenetic and chromatin modification) (S1-S3), The Attagene-cis-factorial (S4), nCounter Pan Cancer (S5), Trusight Pan Cancer (S6), BC Screen model (S7) transcriptomics-based assays were described using the PANTHER (Protein ANalysis THrough Evolutionary Relationships) Classification System [http://www.pantherdb.org/; (Mi et al. NAR 2013; Thomas et al., Genome Research 2003)]. PANTHER Analysis allowed a preliminary classification of proteins (and their genes) of each single transcriptomics-based assay. a) Percent representation of pathways; b) Percent representation of biological processes, based on GO annotations. c) Percent representation of protein classes. Red boxes identify most represented pathways, biological processes or protein classes within each single assay.