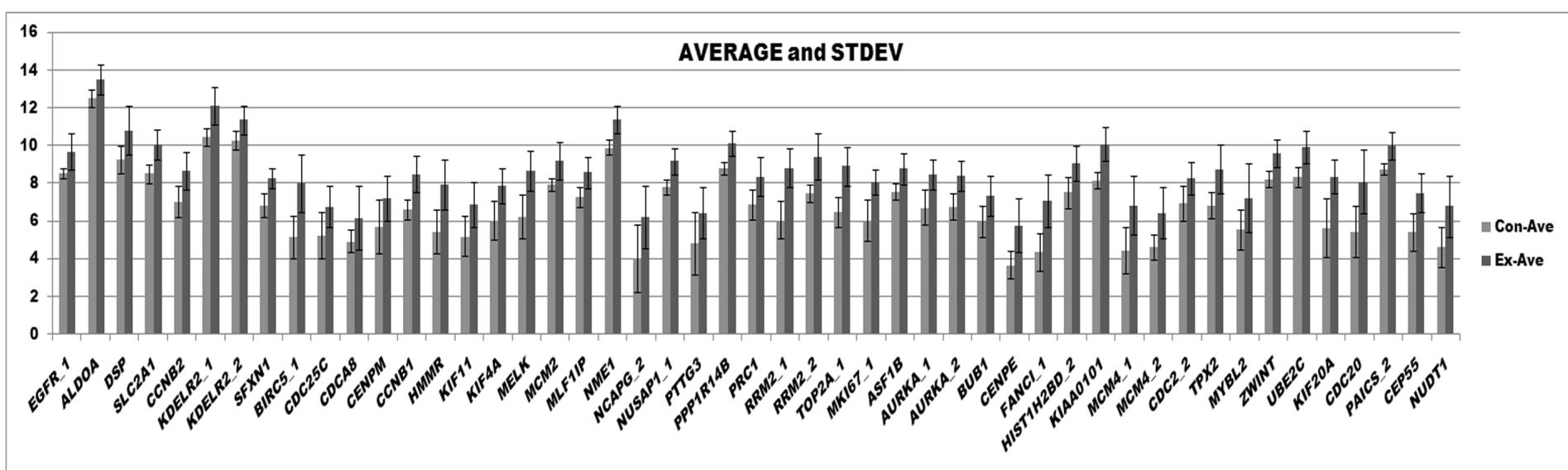
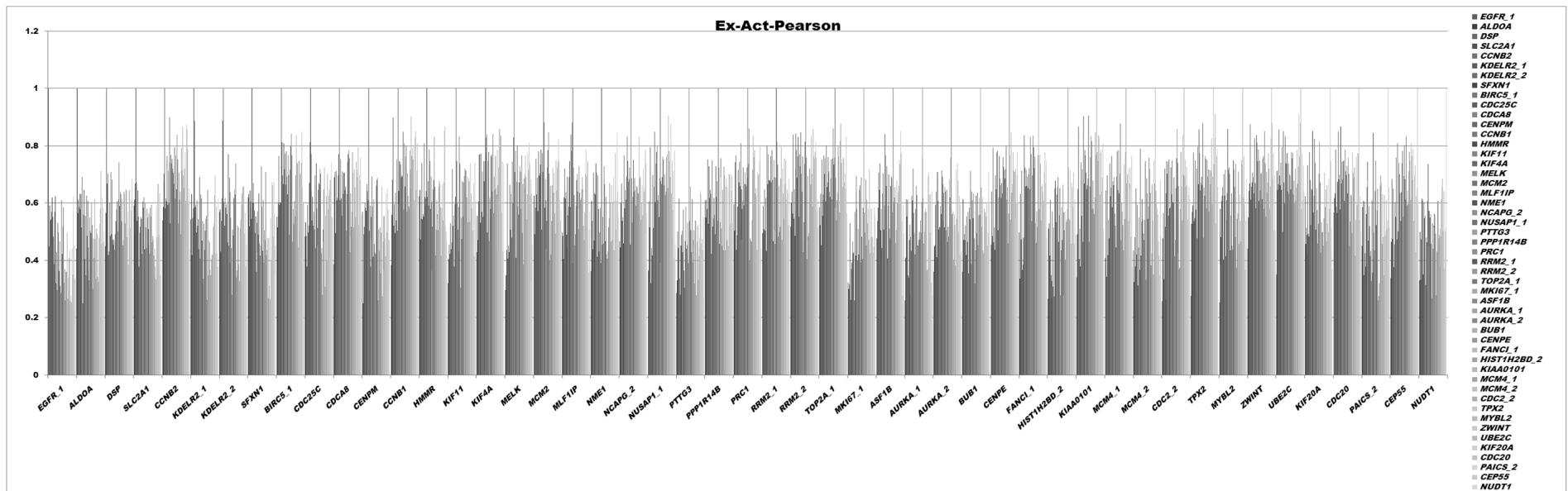


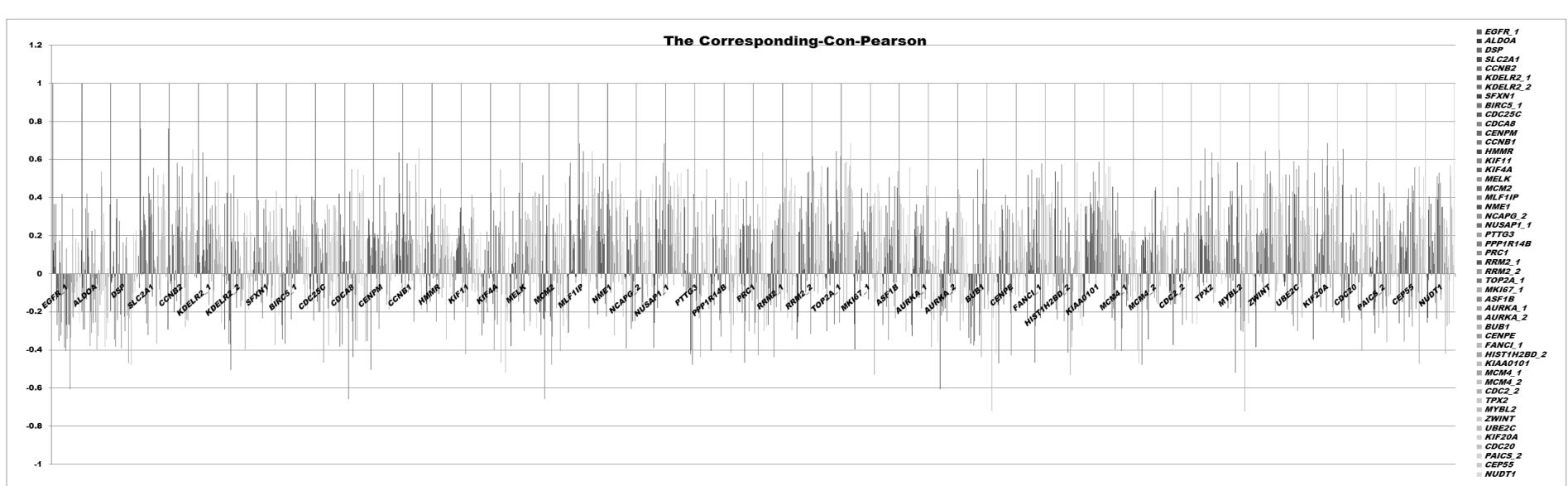
A



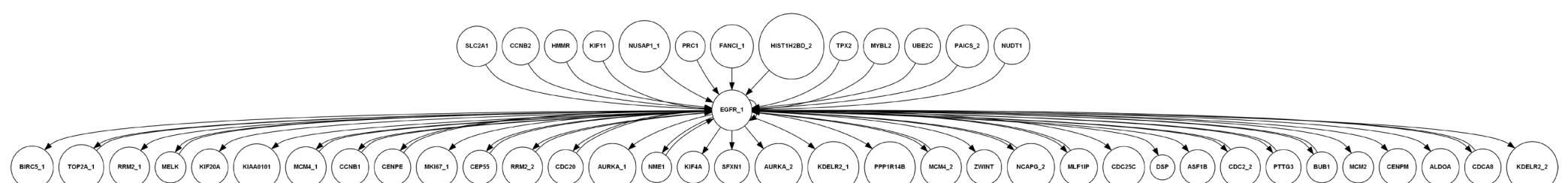
B



C



Supplementary Figure 1 (A) Gene expression values of *EGFR_1*-activatory different mutual Pearson positive correlation molecules in high lung adenocarcinoma and the corresponding low human normal adjacent tissues by AVERAGE and STDEV measurement. **(B)** Vertical quantification chart of *EGFR_1*-activatory different molecular mutual Pearson positive correlation coefficients in high lung adenocarcinoma. n=25. **(C)** The corresponding correlation coefficients in low human normal adjacent tissues. n=25. Con, human normal adjacent tissues; Ex, lung adenocarcinoma; Act, activation.



Supplementary Figure 2 *EGFR_1*-activatory molecular network of high lung adenocarcinoma by GRNIfer. n=25. Black arrow represents the activation relationship and empty circle as the inhibition one. Con, human normal adjacent tissues; Ex, lung adenocarcinoma; Act, activation.

Ex-Act-Terms and Numbers									
cell cycle	35	retinoblastoma	3	microsatellite instability	2	cofactor-binding	1	mitotic spindle elongation	1
nucleus	33	microtubule	3	Parkinson's disease	2	chaperone-binding	1	cholesteatoma	1
protein-binding	30	Tissue-specific-Hs 2-Tissues-Blood and Lymph	3	pregnancy loss	2	anti-apoptosis	1	liposarcoma	1
cytoplasm	23	hyperplasia	3	homocysteine	2	protein complex localization	1	carcinoma infiltrating duct	1
cell division	21	non-small cell lung cancer	3	homocysteine vitamin B12 transcobalamin	2	spindle checkpoint	1	fibroid tumor	1
nucleotide-binding	19	malignant neoplasm of pancreas	3	Alzheimer's disease	2	negative regulation of caspase activity	1	laryngeal squamous cell carcinoma	1
ATP-binding	18	lymphoma	3	neural tube defects	2	positive regulation of progression through mitotic cell cycle	1	carcinoma neuroendocrine	1
DNA replication	15	Role of Ran in mitotic spindle regulation	3	hyperhomocysteinaemia	2	establishment of chromosome localization	1	ubiquitin-protein ligase activity	1
mitosis	13	extracellular matrix (sensu Metazoa)	2	atherosclerosis	2	Contributed--cellular process--Hs Apoptosis	1	cyclin catalysis	1
M phase	13	skeletal development	2	coronary homocysteine	2	protease inhibitor activity	1	transcription from RNA polymerase II promoter	1
M phase of mitotic cell cycle	13	histogenesis	2	nucleophosphatase activity	2	endopeptidase inhibitor activity	1	protein N-terminus-binding	1
microtubule cytoskeleton	12	herpes simplex	2	response to endogenous stimulus	2	helicase viralPathway	1	mitotic sister chromatid segregation	1
nucleoplasm	11	latent infection	2	negative regulation of ubiquitin ligase activity during mitotic cell cycle	2	WW domain-binding	1	mitotic checkpoint	1
Contributed--cellular process--Hs cell cycle KEGG	10	membrane fraction	2	Ubiquitin mediated proteolysis	2	positive regulation of apoptosis	1	establishment of cellular localization	1
cytokinesis	10	transporter activity	2	ubiquitin cycle	2	regulation of cyclin-dependent protein kinase activity	1	establishment of cellular localization	1
malignant neoplasms	10	Contributed--cellular process--Hs IL-3 NetPath15	2	protein transport	2	regulation of cyclin-dependent protein kinase activity	1	positive regulation of retroviral genome replication	1
chromosome	9	carcinoma squamous cell	2	GTPase activity	2	regulation of mitosis	1	spindle pole body	1
DNA-binding	9	psoriasis	2	actin cytoskeleton	1	Apoptotic DNA fragmentation and tissue homeostasis	1	mitotic spindle checkpoint	1
cytosol	8	asthma	2	I band	1	traversing start control point of mitotic cell cycle	1	chromosome aberrations	1
Tissue-specific-Hs 1-Tissue-Embryonic Stem Cell	8	Estrogen-responsive protein Eifp controls cell cycle and breast tumors growth	2	extracellular vesicular exosomes	1	dermatofibrosarcoma	1	autoimmune diseases	1
neoplasms	8	endoplasmic reticulum	2	actin-binding	1	dephosphorylation	1	chagras	1
chromatin	7	endoplasmic reticulum membrane	2	fructose-biphosphate aldolase activity	1	cervical intraepithelial neoplasia	1	mucoitis	1
regulation of transcription DNA-dependent	7	receptor activity	2	tubulin-binding	1	phosphotrotein phosphatase activity	1	positive regulation of cell proliferation	1
Golgi apparatus	6	KDEL sequence-binding	2	fructose-binding	1	regulation of transferase activity	1	condensed nuclear chromosome	1
neoplasm metastasis	6	protein retention in ER	2	glycolysis	1	regulation of mitosis	1	virus diseases	1
transferase activity	6	Cholera - Infection	2	ATP biosynthesis	1	Regulation of cell cycle progression by Pk3	1	spindle pole body	1
transcription	6	peptide-binding	2	striated muscle contraction	1	benign meningioma	1	arthritis	1
adenocarcinoma	6	ADP-Ribosylation Factor	2	actin filament organization	1	positive regulation of protein kinase activity	1	pemphigoid bullous	1
cell proliferation	6	mitochondrion	2	fructose-binding	1	Regulation of cell cycle progression by Pk3	1	malaria	1
leukemia	5	cation transport	2	AKAP95 role in mitosis and chromosome dynamics	1	chromosome aberrations	1	chromatid modification	1
regulation of cell cycle	5	centriole	2	fructose-16-biphosphate metabolism	1	chromosome segregation	1	autoimmunity	1
malignant neoplasms of breast	5	protein complex	2	fructose-16-biphosphate metabolism	1	chromosome condensation	1	regulation of protein metabolism	1
nucleolus	5	protein homodimerization activity	2	muscle maintenance	1	drugs binding	1	regulation of protein phosphorylation	1
Contributed--cellular process--Hs Cell Cycle-G1 to S control	5	protein heterodimerization activity	2	muscle contraction	1	aggression	1	regulation of protein phosphorylation	1
Reactome	5	Pentose phosphate pathway	2	muscle contraction	1	astrocytoma	1	regulation of protein phosphorylation	1
microtubule-based process	5	G2/M transition of mitotic cell cycle	2	pentose phosphate pathway	1	ubiquitin-binding	1	positive regulation of cell proliferation	1
response to DNA damage stimulus	5	apoptosis	2	Fructose and mannose metabolism	1	ulcerative colitis	1	positive regulation of cell proliferation	1
DNA polymerase	5	positive regulation of exit from mitosis	2	fructose-6-phosphate	1	urothelial carcinoma	1	positive regulation of cell proliferation	1
Contributed--cellular process--Hs DNA replication	5	hexose metabolism	2	fructose-6-phosphate	1	uterine fibroids	1	positive regulation of cell proliferation	1
down syndrome	5	enzyme inhibitor activity	2	glycolysis / Gluconeogenesis	1	uterine fibroids	1	positive regulation of cell proliferation	1
Purine metabolism	5	negative regulation of apoptosis	2	hypoxanthine-guanine phosphoribosyltransferase	1	uterine fibroids	1	positive regulation of cell proliferation	1
DNA repair	5	negative regulation of programmed cell death	2	hypoxanthine-guanine phosphoribosyltransferase	1	uterine fibroids	1	positive regulation of cell proliferation	1
phosphoinositide-mediated signaling	5	maple syrup urine disease	2	intermediates in glycolysis/gluconeogenesis	1	uterine fibroids	1	positive regulation of cell proliferation	1
charcot-marie-tooth disease	5	cellular component	2	kinase activity	1	uterine fibroids	1	positive regulation of cell proliferation	1
lysate activity	4	protein amino acid dephosphorylation	2	kinase activity	1	uterine fibroids	1	positive regulation of cell proliferation	1
integral to membrane	4	Activation of Src by Protein-tyrosine phosphatase alpha	2	kinase activity	1	uterine fibroids	1	positive regulation of cell proliferation	1
p53 signaling pathway	4	Cell Cycle G2/M Checkpoint	2	kinase activity	1	uterine fibroids	1	positive regulation of cell proliferation	1
intracellular protein transport	4	Sonic Hedgehog (SHH) Receptor Ptcl Regulates cell cycle	2	kinase activity	1	uterine fibroids	1	positive regulation of cell proliferation	1
spindle microtubule	4	How Progesterone Initiates Oocyte Membrane	2	kinase activity	1	uterine fibroids	1	positive regulation of cell proliferation	1
Colorectal cancer	4	hypertension	2	kinase activity	1	uterine fibroids	1	positive regulation of cell proliferation	1
condensed chromosome kinetochore	4	cell junction	2	kinase activity	1	uterine fibroids	1	positive regulation of cell proliferation	1
carcinoma	4	structural constituent of cytoskeleton	2	kinase activity	1	uterine fibroids	1	positive regulation of cell proliferation	1
malignant tumor of colon	4	melanoma	2	kinase activity	1	uterine fibroids	1	positive regulation of cell proliferation	1
microtubule motor activity	4	glioma	2	kinase activity	1	uterine fibroids	1	positive regulation of cell proliferation	1
microtubule-based movement	4	inflammation	2	kinase activity	1	uterine fibroids	1	positive regulation of cell proliferation	1
motor activity	4	solid tumor	2	kinase activity	1	uterine fibroids	1	positive regulation of cell proliferation	1
protein serine/threonine kinase activity	4	breast carcinoma	2	kinase activity	1	uterine fibroids	1	positive regulation of cell proliferation	1
protein amino acid phosphorylation	4	spindle pole	2	kinase activity	1	uterine fibroids	1	positive regulation of cell proliferation	1
DNA unwinding during replication	4	regulation of phosphorylation	2	kinase activity	1	uterine fibroids	1	positive regulation of cell proliferation	1
DNA replication initiation	4	shock	2	kinase activity	1	uterine fibroids	1	positive regulation of cell proliferation	1
CDK Regulation of DNA Replication	4	neuropathology	2	kinase activity	1	uterine fibroids	1	positive regulation of cell proliferation	1
Pyrimidine metabolism	4	cholera	2	kinase activity	1	uterine fibroids	1	positive regulation of cell proliferation	1
malignant neoplasm of lung	4	cancer of prostate	2	kinase activity	1	uterine fibroids	1	positive regulation of cell proliferation	1
nucleosome assembly	4	gastric carcinoma	2	kinase activity	1	uterine fibroids	1	positive regulation of cell proliferation	1
spindle	4	magnesium ion-binding	2	kinase activity	1	uterine fibroids	1	positive regulation of cell proliferation	1
spindle organization and biogenesis	4	GTP-binding	2	kinase activity	1	uterine fibroids	1	positive regulation of cell proliferation	1
ligase activity	4	kinase activity	2	kinase activity	1	uterine fibroids	1	positive regulation of cell proliferation	1
ubiquitin-dependent protein catabolism	4	negative regulation of cell proliferation	2	kinase activity	1	uterine fibroids	1	positive regulation of cell proliferation	1
identical protein-binding	3	regulation of cell proliferation	2	kinase activity	1	uterine fibroids	1	positive regulation of cell proliferation	1
development	3	ribonucleotide diphosphate reductase activity	2	kinase activity	1	uterine fibroids	1	positive regulation of cell proliferation	1
intracellular	3	oxidoreductase activity	2	kinase activity	1	uterine fibroids	1	positive regulation of cell proliferation	1
membrane	3	deoxyribonucleoside diphosphate metabolism	2	kinase activity	1	uterine fibroids	1	positive regulation of cell proliferation	1
vesicle-mediated transport	3	deoxyribonucleoside biosynthesis	2	kinase activity	1	uterine fibroids	1	positive regulation of cell proliferation	1
iron ion-binding	3	kinase activity	2	kinase activity	1	uterine fibroids	1	positive regulation of cell proliferation	1
pericentric region	3	oxidation reduction	2	kinase activity	1	uterine fibroids	1	positive regulation of cell proliferation	1
zinc ion-binding	3	Glutathione metabolism	2	kinase activity	1	uterine fibroids	1	positive regulation of cell proliferation	1
metal ion-binding	3	hydatidiform mole	2	kinase activity	1	uterine fibroids	1	positive regulation of cell proliferation	1
hydrolase activity	3	choriocarcinoma	2	kinase activity	1	uterine fibroids	1	positive regulation of cell proliferation	1
centrosome	3	chromatin-binding	2	kinase activity	1	uterine fibroids	1	positive regulation of cell proliferation	1
anaphase-promoting complex-dependent proteasomal ubiquitin-dependent protein catabolism	3	adenoma	2	kinase activity	1	uterine fibroids	1	positive regulation of cell proliferation	1
positive regulation of ubiquitin ligase activity during mitotic cell cycle	3	mitochondrial inner membrane	2	kinase activity	1	uterine fibroids	1	positive regulation of cell proliferation	1
primary tumor	3	gastric carcinoma	2	kinase activity	1	uterine fibroids	1	positive regulation of cell proliferation	1
stomach cancer	3	chromatin assembly or disassembly	2	kinase activity	1	uterine fibroids	1	positive regulation of cell proliferation	1
microtubule-associated complex	3	ubiquitin protein ligase-binding	2	kinase activity	1	uterine fibroids	1	positive regulation of cell proliferation	1
DNA helicase activity	3	mitotic cell cycle	2	kinase activity	1	uterine fibroids	1	positive regulation of cell proliferation	1
single-stranded DNA-binding	3	regulation of protein stability	2	kinase activity	1	uterine fibroids	1	positive regulation of cell proliferation	1
nucleotide triphosphate activity	3	ovarian cancer	2	kinase activity	1	uterine fibroids	1	positive regulation of cell proliferation	1
chromosome organization and biogenesis	3	breast cancer	2	kinase activity	1	uterine fibroids	1	positive regulation of cell proliferation	1
dysplasia	3	esophageal cancer	2	kinase activity	1	uterine fibroids	1	positive regulation of cell proliferation	1
alzheimers disease	3	primary carcinoma of the liver cells	2	kinase activity	1	uterine fibroids			