

Manual

This code produce 5 graph for comparing different Genes in different cells and in presence different nanoparticles.

At first, two files as known “table.txt” and “code.m” copy on your system. “table.txt” file is nessessary for runing code.

Please run code.m file. In command window is asked several question.

Question 1 : “ ID of Gene 1 = ”

explain: you should select ID of Gene (ID number of each Gene shows in Table1). For each Gene exist an ID number.

If you select a integer number except 1-57, you would face follow error:

“please select a number between 1 and 57”

Question 2 : “ID of Cell (ID: Heart cell=1 , Brain Cell=2 kidney Cell=3)=”

explain: you select ID of Gene in previous step, now we want to see Gene in one of Heart cell, Kidney cell or Brain cell. ID of Heart, Brain, Kidney cell is 1, 2, 3 respectively.

If you select a integer number except 1, 2, 3 , you would face follow error:

“please select one of numbers of 1 or 2 or 3”

Question 3: “ID of Nanoparticle (ID: SPIONs-COOH=-1, SPIONs=0, va SPIONs-NH2=1) =”

Now we want to see effect of nanoparticle on Gene. Here, there is 3 nanoparticle (SPIONs-COOH, SPIONs, SPIONs-NH2). Each nanoparticle has an ID number as follow:

SPIONs-COOH = -1,

SPIONs = 0,

SPIONs-NH2 = 1

If you select a integer number except 1, 0, -1 , you would face follow error:

“please select one of numbers of 1 or 0 or -1”

Three questions are asked 5 times. Now you can compare 5 different Genes in different Cells and in presence of different nanoparticles.

Number	Name of Gene Series
1	Homeostasis
2	Nitrogen compound biosynthesis
3	Wound healing
4	DNA repair
5	M phase
6	Secretion
7	Negative regulation of metabolism
8	Inflammatory response
9	Human immune response
10	Ion transport
11	Response to pest, pathogen or parasite
12	Immune response
13	Alcohol metabolism
14	Lipid biosynthesis
15	Aromatic compound metabolism
16	Vesicle-mediated transport
17	Regulation of cell proliferation
18	Sensory perception
19	Mitotic cell cycle
20	Regulation of protein metabolism
21	Lipid metabolism
22	Cell motility
23	Establishment of protein localization
24	Cellular morphogenesis
25	Protein transport
26	Regulation of signal transduction
27	Cellular lipid metabolism
28	Nitrogen compound catabolism
29	Establishment of cellular localization
30	Cellular localization
31	Macromolecule biosynthesis
32	Cofactor metabolism
33	Organelle organization and biogenesis
34	Negative regulation of cellular physiological process
35	Electron transport
36	Intracellular transport
37	Cell surface receptor linked signal transduction
38	Macromolecule catabolism
39	Carbohydrate metabolism
40	Regulation of programmed cell death
41	Positive regulation of cellular physiological process
42	Regulation of cellular metabolism
43	Regulation of cell cycle
44	Phosphorus metabolism
45	Amino acid and derivative metabolism

46	Intracellular signaling cascade
47	Amine metabolism
48	Cellular biosynthesis
49	Organic acid metabolism
50	Programmed cell death
51	Generation of precursor metabolites and energy
52	Cellular catabolism
53	Biopolymer metabolism
54	Nucleic acid metabolism
55	Transport
56	Protein Metabolism
57	Cellular Macromolecule metabolism

Table1: ID number of 57 Genes.