The genes present in **LFmut_mis** order by gene frequency

Nac-3 (19.709091)

https://wormbase.org/species/c_elegans/gene/WBGene00003519#0-9f-10
Sequence: K08E5.2

Enables high-affinity sodium:dicarboxylate symporter activity and succinate transmembrane transporter activity. Involved in determination of adult lifespan and succinate transport. Predicted to be integral component of membrane. Expressed in alimentary system. Is an ortholog of human SLC13A2 (solute carrier family 13 member 2).

cdc-5L (Cell Division Cycle related) (18.066667)

https://wormbase.org/species/c_elegans/gene/WBGene00008386#0-9f-10
Sequence: D1081.8

Predicted to enable DNA-binding transcription factor activity, RNA polymerase II-specific and RNA polymerase II transcription regulatory region sequence-specific DNA binding activity. Predicted to be involved in mRNA splicing, via spliceosome and regulation of transcription by RNA polymerase II. Predicted to be part of Prp19 complex and spliceosomal complex. Human ortholog(s) of this gene implicated in esophagus adenocarcinoma and osteosarcoma. Is an ortholog of human CDC5L (cell division cycle 5 like).

akt-2 (AKT kinase family) (11.410526)

https://wormbase.org/species/c_elegans/gene/WBGene00000103#0-9f-10
Sequence: F28H6.1

Enables phosphatidylinositol-3,4,5-trisphosphate binding activity and protein serine/threonine kinase activity. Involved in several processes, including determination of adult lifespan; insulin receptor signaling pathway; and protein phosphorylation. Expressed in several structures, including excretory canal; neurons; pharynx; rectum; and vulva. Human ortholog(s) of this gene implicated in several diseases, including carcinoma (multiple); coronary artery disease (multiple); and glucose metabolism disease (multiple). Is an ortholog of human AKT1 (AKT serine/threonine kinase 1); AKT2 (AKT serine/threonine kinase 2); and AKT3 (AKT serine/threonine kinase 3).

F54D1.6 (8.672)

https://wormbase.org/species/c_elegans/gene/WBGene00010047#0-9f-10

Sequence: F54D1.6
Predicted to enable microtubule-severing ATPase activity. Predicted to be involved in cell-matrix adhesion and microtubule severing. Predicted to be located in membrane. Predicted to be integral component of membrane.

epac-1 (Exchange Protein Activated by Cyclic AMP) (6.775)

Sequence: T20G5.5
https://wormbase.org/species/c_elegans/gene/WBGene00004255#0-9f-10

Predicted to enable guanyl-nucleotide exchange factor activity. Predicted to be involved in Ras protein signal transduction and positive regulation of GTPase activity. Predicted to be located in plasma membrane. Expressed in neurons. Human ortholog(s) of this gene implicated in autistic disorder and congestive heart failure. Is an ortholog of human RAPGEF3 (Rap guanine nucleotide exchange factor 3).

rhgf-1 (RHo Guanine nucleotide exchange Factor) (5.558974)

Sequence: F13E6.6
https://wormbase.org/species/c_elegans/gene/WBGene00006468#0-9f-10

Enables microtubule binding activity. Involved in axon regeneration. Located in neuronal cell body and varicosity. Expressed in nervous system and spermatheca. Human ortholog(s) of this gene implicated in immunodeficiency 62. Is an ortholog of human ARHGEF11 (Rho guanine nucleotide exchange factor 11).

tank-1 (TANKyrase related) (3.674576)

Sequence: ZK1005.1

https://wormbase.org/species/c_elegans/gene/WBGene00004053#0-9f-10
Predicted to enable NAD+ ADP-ribosyltransferase activity and NAD+-protein ADP-ribosyltransferase activity. Involved in intrinsic apoptotic signaling pathway in response to DNA damage; negative regulation of programmed cell death; and response to gamma radiation. Located in nucleus.

ketn-1 (KETtiN (Drosophila actin-binding) homolog) (2.026168)

Sequence: F54E2.3

https://wormbase.org/species/c_elegans/gene/WBGene00004130#0-9f-10

Predicted to enable actin filament binding activity. Predicted to be involved in muscle contraction. Located in I band. Expressed in anal depressor muscle; body wall musculature; male gonad; and pharyngeal muscle cell.

ttn-1 ***(TiTiN family)*** **(0.671207*)***

Sequence: W06H8.8
https://wormbase.org/species/c_elegans/gene/WBGene00006436#0-9f-10
Enables actin filament binding activity and myosin binding activity. Predicted to be involved in protein phosphorylation. Located in A band and I band. Expressed in muscle cell.