

Temporal Framework: G32A Mutation

Early → Trajectory Deviation → Late | FDR < 0.25 (black outline = FDR < 0.05) | n=88 pathways

SYNGO

Extrinsic Component of Synaptic Vesicle Membrane
 Postsynaptic Actin Cytoskeleton
 Integral Component of Postsynaptic Density Membrane
 Presynaptic Cytosol
 Integral Component of Postsynaptic Specialization Membrane
 Synaptic Vesicle
 Postsynapse
 Postsynaptic Ribosome
 Presynaptic Ribosome
 Postsynaptic Density
 Anchored Component of Synaptic Vesicle Membrane
 Synapse

MITOCARTA

Tca-Associated
 Ci Assembly Factors
 Mtrna Stability and Decay
 Polycistronic Mtrna Processing
 Complex I
 MtDNA Maintenance
 Lipid Metabolism
 Slc25a Family
 Mitochondrial Central Dogma
 MtDNA Replication
 Mtrna Metabolism
 Mtrna Granules
 Autophagy
 Fatty Acid Oxidation
 Mt-Trna Modifications
 Complex III
 Mitochondrial Ribosome
 Protein Import and Sorting
 OXPHOS
 OXPHOS Subunits
 Small Molecule Transport
 Protein Import Sorting and Homeostasis
 OXPHOS Assembly Factors
 Translation
 Cv Subunits
 Mitochondrial Ribosome Assembly
 Complex V

GOBP

Calcium Independent Cell Cell Adhesion via Plasma Membran...
 Mitochondrial Genome Maintenance
 Regulation of Mitochondrial Gene Expression
 Regulation of Mitochondrial Translation
 Mitochondrial RNA Processing
 Mitochondrial Gene Expression
 Mitochondrial RNA Metabolic Process
 Mitochondrial Translation
 Ribonucleoprotein Complex Biogenesis
 Ribosome Biogenesis
 Regulation of Translation
 Translational Initiation
 Mitochondrial Respiratory Chain Complex Assembly
 Mitochondrial Transcription
 Establishment of Protein Localization to Mitochondrial Me...
 Ribosome Assembly
 Protein Import Into Mitochondrial Matrix
 Positive Regulation of Cytoplasmic Translation
 Mitochondrial Ribosome Assembly
 Cytoplasmic Translation

GOCC

Mitochondrial Small Ribosomal Subunit
 Mitochondrial Matrix
 Organellar Ribosome
 Small Nuclear Ribonucleoprotein Complex
 90s Preribosome
 Mitochondrial Protein Containing Complex
 Cytosolic Large Ribosomal Subunit
 Cytosolic Ribosome
 Ribonucleoprotein Granule
 Mitochondrial Large Ribosomal Subunit
 Ribosome
 Preribosome Small Subunit Precursor
 Ribosomal Subunit
 Cytosolic Small Ribosomal Subunit
 Large Ribosomal Subunit

GOMF

Ribosome Binding

-log10(FDR)0.5
1.0
2.0
3.0**NES**2
0
-2**KEGG**

Reference Translation Initiation

Srp Dependent Cotranslational Protein Targeting to Membrane

Translation

Transcriptional Activation of Mitochondrial Biogenesis

Mitochondrial Biogenesis

REACTOME

Elevation of Cytosolic Ca2 Levels

Mitochondrial Translation

Mitochondrial Protein Import

Eukaryotic Translation Elongation

Eukaryotic Translation Initiation

Cytoplasmic Ribosomal Proteins

Electron Transport Chain OXPHOS System in Mitochondria

WIKI**Early****TrajDev****Late****Temporal Stage**