**NETWORK OBJECTS**

- **Channels/Transporters**
  - General channel
  - Ligand-gated ion channel
  - Voltage-gated ion channel
  - Transporter

- **Receptors**
  - General
  - GPCR
  - Receptors with kinase activity

- **Enzymes**
  - Generic enzyme
  - Generic kinase
  - Protein kinase
  - Lipid kinase
  - Generic phospholipase
  - Metalloprotease
  - GTPase
  - CTPase
  - G-alpha
  - RAS - superfamily

- **Phospholipase**
  - General phospholipase

- **Groups of Objects**
  - A complex or a group
  - Proteins physically connected into a complex or related as a family
  - Logical association
  - Proteins linked by logical relations or physical interactions
  - Custom association
  - Group of collapsed objects chosen by user

**USER DATA**

- **Networks**
  - Up-regulated (+)
  - Object has user data with positive value
  - Down-regulated (-)
  - Object has user data with negative value
  - Mixed-signal (+/-)
  - Object has user data with both positive and negative values

**INTERACTIONS BETWEEN OBJECTS**

- **Effects**
  - Positive / activation
  - Negative / inhibition
  - Unspecified

- **Physiological Interactions**
  - Binding
  - Covalent modifications
  - Cleavage
  - Phosphorylation
  - Dephosphorylation
  - Transformation
  - Transport
  - Catalysis
  - MicroRNA binding

- **Canonical Pathways**
  - Canonical pathway

**FUNCTIONAL INTERACTIONS**

- **Influence on expression**
  - Compounds change the expression level of target genes indirectly, for instance by binding to other receptors
- **Competition**
  - Protein activity regulated by competition of the substrate binding site
- **Unspecified interactions**
  - Mediates unknown or indirect effects

**MECHANISMS**

- **Binding**
  - Compounds bind to the enzyme or receptor
- **Cleavage**
  - Cleavage of a protein on a specific site yielding distinctive peptide fragments
- **Covalent modifications**
  - Protein activity regulated by covalent binding of a small chemical group to the amino acids of an active site
- **Phosphorylation**
  - Protein activity is altered via addition of a phosphate group
- **Dephosphorylation**
  - Protein activity is altered via removal of a phosphate group
- **Transformation**
  - Protein activity regulated by binding & hydrolysis of GTP
- **Transport**
  - Transport of a protein or a compound between organelles
- **Catalysis**
  - Catalysis of an enzymatic reaction
- **Transcription regulation**
  - Physical binding of a transcription factor to target gene's promoter

**OBJECTS ON MAPS**

- **Localization**
  - Mitochondria
  - EPR
  - Golgi
  - Nucleus
  - Lysosome
  - Peroxisome
  - Cytoplasm
  - Extracellular

- **Other Map Objects**
  - Note
  - Normal process
  - Pathological process
  - Normal map
  - Disease map
  - Species specific object
  - Path start

**LINKS ON NETWORKS**

- **Incoming interaction**
  - When the focus is on an object, yellow line indicates direction to object
- **Outgoing interaction**
  - Cyan links indicate direction FROM the object

**LINKS FROM CUSTOM LIST (MetaLink™)**

- **Interaction in the network**
  - Interaction is represented by a thick cyan line
- **Interaction is in the base, but not in network**
  - Interaction is highlighted in yellow
- **Interaction is in the network interaction is highlighted in magenta**

**GROUPS OF OBJECTS**

- **A complex or a group**
- **Proteins physically connected into a complex or related as a family**
- **Logical association**
- **Proteins linked by logical relations or physical interactions**
- **Custom association**
- **Group of collapsed objects chosen by user**

**LOGICAL RELATIONS**

- **Group relation**
  - Objects belong to a specific group of related objects
- **Complex subunit**
  - Protein is a subunit of a protein complex
- **Similarity relation**
  - Chemically similar compounds with chosen Tanimoto similarity score

**INTERACTIONS FROM CUSTOM LIST (MetaLink™)**

- **Disrupts in disease**
- **Weakens in disease**
- **Emerges in disease**
- **Enhances in disease**
- **Species specific interactions**

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