DATA

Ref:

GPCRdb

ANALYSIS

Receptor-specific data overview

1 Receptor page

Snakeplots and helix box plots

Human proteins

Species orthologs

SEQUENCES

2,3 Sequence alignments

Residue / property conservation

R3x50 Generic residues

4 Generic residue number tables

Genetic variants

5 Genetic variants

Variant coverage across GPCRs

6 Isoforms

Isoforms

SEQUENCE ANALYSIS

BLAST search

Phylogenetic trees

Similarity matrix

2,7 Receptor similarity

2 Site search (by seq. motif)

Search functional site across alignment

STRUCTURES

Structures

Refined structures

2 Structure coverage

Structure coverage across GPCRs

1,3 Structures

8 Structure models

Structure models

3,8 Structure model validation

Validation of structure models

STRUCTURE ANALYSIS

Structure-function determinants

9 Structure comparison tool

9 Structure similarity trees

2 Structure superposition

R3x50 Generic residues

2,4 Generic residue numbering (PDB)

Tree clustering structures by 3D conformation

STRUCTURE CONSTRUCTS

Constructs

10 Construct/Experiment design

10 Truncation/Fusion analysis

10 Mutation analysis

3D alignment of structures on any residue set

Experiments

DETERMINANTS & MUTATIONS

3 Sequence signature tool

9 State stabilizing mutation design

Truncations, fusions, & mutations used in structures

Design constructs for crystallography/cryo-EM

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Identify functional determinants by comparative sequence analysis

Stabilize inactive/active state GPCRs