

D4DR (D-16): sc-31481

BACKGROUND

Members of the G protein-coupled receptor family are distinguished by their slow transmitting response to ligand binding. These seven-transmembrane proteins include the adrenergic, serotonin and dopamine receptors. The effect of the signaling molecule can be excitatory or inhibitory depending on the type of receptor to which it binds. β -adrenergic receptor binds to adrenaline and activates adenylyl cyclase, while α_2 -adrenergic receptor binds to adrenaline and inhibits adenylyl cyclase. The dopamine receptors are divided into two classes, D1 and D2, which differ in their functional characteristics in that D1 receptors stimulate adenylyl cyclase, while D2 receptors inhibit adenylyl cyclase activity. Five different subtypes of dopamine receptor have been described to date. D1DR and D5DR belong to the D1 subclass, while D2DR, D3DR and D4DR belong to the D2 subclass of dopamine receptors.

REFERENCES

- Hausdorff, W.P., et al. 1990. Two kinases mediate agonist-dependent phosphorylation and desensitization of the β 2-adrenergic receptor. *Symp. Soc. Exp. Biol.* 44: 225-240.
- Cotecchia, S., et al. 1990. Multiple second messenger pathways of α -adrenergic receptor subtypes expressed in eukaryotic cells. *J. Biol. Chem.* 265: 63-69.
- Hayes, G., et al. 1992. Structural subtypes of the dopamine D2 receptor are functionally distinct: expression of the cloned D2A and D2B subtypes in a heterologous cell line. *Mol. Endocrinol.* 6: 920-926.
- Senogles, S.E. 1994. The D2 dopamine receptor isoforms signal through distinct $G_{i\alpha}$ proteins to inhibit adenylyl cyclase. A study with site-directed mutant $G_{i\alpha}$ proteins. *J. Biol. Chem.* 269: 23120-23127.
- Barak, L.S., et al. 1995. The conserved seven-transmembrane sequence NP(X)2,3Y of the G protein-coupled receptor superfamily regulates multiple properties of the β 2-adrenergic receptor. *Biochemistry* 34: 15407-15414.
- Ogawa, N. 1995. Molecular and chemical neuropharmacology of dopamine receptor subtypes. *Acta Med. Okayama* 49: 1-11.

CHROMOSOMAL LOCATION

Genetic locus: DRD4 (human) mapping to 11p15.5; Drd4 (mouse) mapping to 7 F5.

SOURCE

D4DR (D-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an extracellular domain of D4DR of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-31481 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

D4DR (D-16) is recommended for detection of D4DR of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

D4DR (D-16) is also recommended for detection of D4DR in additional species, including equine, canine and porcine.

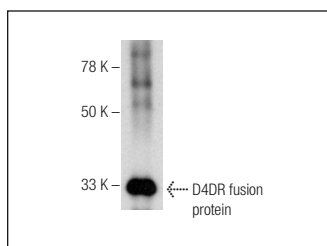
Suitable for use as control antibody for D4DR siRNA (h): sc-41932, D4DR siRNA (m): sc-41933, D4DR shRNA Plasmid (h): sc-41932-SH, D4DR shRNA Plasmid (m): sc-41933-SH, D4DR shRNA (h) Lentiviral Particles: sc-41932-V and D4DR shRNA (m) Lentiviral Particles: sc-41933-V.

Molecular Weight of D4DR: 48 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



D4DR (D-16): sc-31481. Western blot analysis of human recombinant D4DR fusion protein.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.



Try **D4DR (2B9): sc-136169**, our highly recommended monoclonal alternative to D4DR (D-16).