

D1DR (E-16): sc-31479

BACKGROUND

The members of the G protein-coupled receptor family are distinguished by their slow transmitting response to ligand binding. These 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 activates adenylyl cyclase, while α_2 -adrenergic receptor binds to adrenaline 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.

REFERENCES

1. 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.
2. Cotecchia, S., et al. 1990. Multiple second messenger pathways of α -adrenergic receptor subtypes expressed in eukaryotic cells. *J. Biol. Chem.* 265: 63-69.
3. 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.
4. Senogles, S.E. 1994. The D2 dopamine receptor isoforms signal through distinct G_i α proteins to inhibit adenylyl cyclase. A study with site-directed mutant G_i α proteins. *J. Biol. Chem.* 269: 23120-23127.
5. 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.

CHROMOSOMAL LOCATION

Genetic locus: DRD1 (human) mapping to 5q35.2; Drd1a (mouse) mapping to 13 B1.

SOURCE

D1DR (E-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a C-terminal cytoplasmic domain of D1DR 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-31479 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

D1DR (E-16) is recommended for detection of D1DR 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

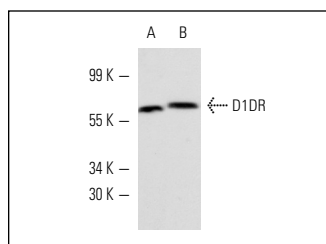
D1DR (E-16) is also recommended for detection of D1DR in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for D1DR siRNA (h): sc-35159, D1DR siRNA (m): sc-35160, D1DR shRNA Plasmid (h): sc-35159-SH, D1DR shRNA Plasmid (m): sc-35160-SH, D1DR shRNA (h) Lentiviral Particles: sc-35159-V and D1DR shRNA (m) Lentiviral Particles: sc-35160-V.

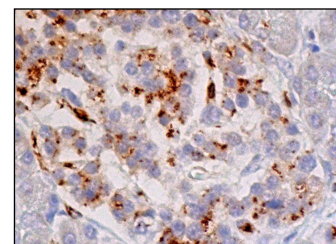
Molecular Weight of D1DR: 74 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214, mouse brain extract: sc-2253 or HeLa whole cell lysate: sc-2200.

DATA



D1DR (E-16): sc-31479. Western blot analysis of D1DR expression in KNRK (A) and HeLa (B) whole cell lysates.



D1DR (E-16): sc-31479. Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of Islet of Langerhans.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.



Try **D1DR (SG2-D1a): sc-33660**, our highly recommended monoclonal alternative to D1DR (E-16). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **D1DR (SG2-D1a): sc-33660**.