SANTA CRUZ BIOTECHNOLOGY, INC.

D1DR (H-109): sc-14001

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

CHROMOSOMAL LOCATION

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

SOURCE

D1DR (H-109) is a rabbit polyclonal antibody raised against amino acids 338-446 mapping near the C-terminus of D1DR of human origin.

PRODUCT

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

APPLICATIONS

D1DR (H-109) 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 µg per 100-500 µg 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).

D1DR (H-109) 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.

RESEARCH USE

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

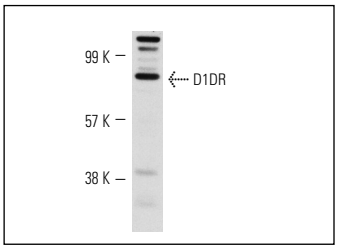
PROTOCOLS

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

STORAGE

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

DATA



D1DR (H-109): sc-14001. Western blot analysis of D1DR expression in KNRK whole cell lysate.

SELECT PRODUCT CITATIONS

1. Fiorentini, C., et al. 2008. Reciprocal regulation of dopamine D1 and D3 receptor function and trafficking by heterodimerization. Mol. Pharmacol. 74: 59-69.
2. Gildea, J.J., et al. 2008. Differential D1 and D5 receptor regulation and degradation of the angiotensin type 1 receptor. Hypertension 51: 360-366.
3. Salvatore, M.F., et al. 2009. Bilateral effects of unilateral GDNF administration on dopamine- and GABA-regulating proteins in the rat nigrostriatal system. Exp. Neurol. 219: 197-207.
4. Kern, C.H. and Smith, D.R. 2010. Preweaning Mn exposure leads to prolonged astrocyte activation and lasting effects on the dopaminergic system in adult male rats. Synapse 65: 532-544.
5. Voulalas, P.J., et al. 2011. Differential subcellular distribution of rat brain dopamine receptors and subtype-specific redistribution induced by cocaine. Mol. Cell. Neurosci. 46: 645-654.
6. Harrison, L.M. and He, Y. 2011. Rhes and AGS1/Dexras1 affect signaling by dopamine D1 receptors through adenylyl cyclase. J. Neurosci. Res. 89: 874-882.