

D5DR (E-12): sc-376088

BACKGROUND

D5DR (dopamine receptor D5, DR1B, DRD1L2) is a G protein-coupled receptor of the D1-like family that stimulates adenylyl cyclase and has a 10-fold higher affinity for dopamine than the D1 subtype. D5DR is present in neurons in the limbic regions of the brain. D5DR mRNA is most abundant in discrete cortical areas (layers II, IV and VI), the dentate gyrus and hippocampal subfields with low levels in the striatum. There are five major types of dopamine receptors. All are G protein-coupled metabotropic receptors, and can be excitatory or inhibitory to the post-synaptic neuron. D1 (D1A, D1C, D1D) and D5 (D1B) receptors belong to the D1-like receptor family. The D2, D3 and D4 receptors belong to the D2-like receptor family. Activation of the D1-like family receptors couples to increases in cAMP and is typically excitatory, while D2-like activation reduces cAMP and is typically inhibitory. Significant age-related decline in dopamine receptor mRNAs occurs in the hippocampus and entorhinal cortex.

CHROMOSOMAL LOCATION

Genetic locus: DRD5 (human) mapping to 4p16.1.

SOURCE

D5DR (E-12) is a mouse monoclonal antibody raised against amino acids 371-477 of D5DR of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

D5DR (E-12) is available conjugated to agarose (sc-376088 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376088 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376088 PE), fluorescein (sc-376088 FITC), Alexa Fluor® 488 (sc-376088 AF488), Alexa Fluor® 546 (sc-376088 AF546), Alexa Fluor® 594 (sc-376088 AF594) or Alexa Fluor® 647 (sc-376088 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376088 AF680) or Alexa Fluor® 790 (sc-376088 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

D5DR (E-12) is recommended for detection of D5DR of human origin by Western Blotting (starting dilution 1:100, 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), 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).

Suitable for use as control antibody for D5DR siRNA (h): sc-41934, D5DR shRNA Plasmid (h): sc-41934-SH and D5DR shRNA (h) Lentiviral Particles: sc-41934-V.

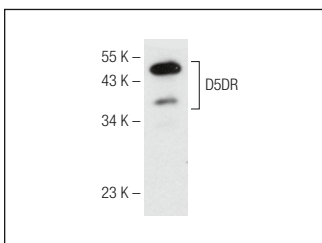
Molecular Weight of D5DR: 53 kDa.

Positive Controls: human ovary extract: sc-363769.

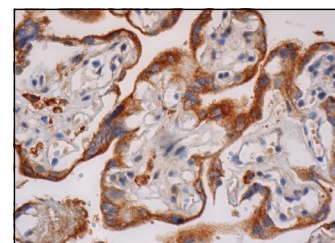
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



D5DR (E-12): sc-376088. Western blot analysis of D5DR expression in human ovary tissue extract.



D5DR (E-12): sc-376088. Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic staining of trophoblastic cells.

SELECT PRODUCT CITATIONS

- Leng, Z.G., et al. 2017. Activation of DRD5 (dopamine receptor D5) inhibits tumor growth by autophagic cell death. *Autophagy* 13: 1404-1419.
- van Nie, L., et al. 2020. Dopamine induces *in vitro* migration of synovial fibroblast from patients with rheumatoid arthritis. *Sci. Rep.* 10: 11928.
- Fan, Y., et al. 2022. Anti-tumor and anti-invasive effects of ONC201 on ovarian cancer cells and a transgenic mouse model of serous ovarian cancer. *Front. Oncol.* 12: 789450.
- Vo, V.T.A., et al. 2022. Iron commensalism of mesenchymal glioblastoma promotes ferroptosis susceptibility upon dopamine treatment. *Commun. Biol.* 5: 593.
- Xue, Z., et al. 2024. The dopamine receptor D1 inhibitor, SKF83566, suppresses GBM stemness and invasion through the DRD1-c-Myc-UHRF1 interactions. *J. Exp. Clin. Cancer Res.* 43: 25.

STORAGE

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

PROTOCOLS

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

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