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DRD5 Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP21293b

Product Information

Application	WB, FC, E
Primary Accession	P21918
Reactivity	Human
Host	Rabbit
Clonality	polyclonal
Isotype	Rabbit IgG
Clone Names	RB52763
Calculated MW	52951

Additional Information

Gene ID	1816
Other Names	D(1B) dopamine receptor, D(5) dopamine receptor, D1beta dopamine receptor, Dopamine D5 receptor, DRD5, DRD1B, DRD1L2
Target/Specificity	This DRD5 antibody is generated from a rabbit immunized with a KLH conjugated synthetic peptide between 421-456 amino acids from the C-terminal region of human DRD5.
Dilution	WB~~1:2000 FC~~1:25 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	DRD5 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	DRD5 {ECO:0000303|PubMed:11781417, ECO:0000312|HGNC:HGNC:3026}
Function	G protein-coupled receptor for dopamine, a catecholamine neurotransmitter hormone that functions as the brain's 'reward chemical', driving motivation, reinforcement learning and pleasure (PubMed:11500503, PubMed:1826762, PubMed:1834671, PubMed:37221270). Dopamine binding causes a conformation change that triggers signaling via guanine

nucleotide-binding proteins (G proteins) and modulates the activity of downstream effectors, such as adenylate cyclase (PubMed:11500503, PubMed:1826762, PubMed:1834671, PubMed:37221270). Dopamine receptors can be classified in two categories: (1) DRD5 (together with DRD1) is a D1-type receptor and is coupled to G(s) G proteins, mediating activation of adenylate cyclase activity, while D2- type receptors (DRD2, DRD3 and DRD4) are coupled to G(i)/G(o) G proteins and promote inhibition of adenylate cyclase activity (PubMed:11500503, PubMed:1826762, PubMed:1834671, PubMed:37221270). D1- and D2-type dopamine receptors have antagonistic effects, particularly in the brain's striatum, where they govern voluntary movement and reward: D1-type receptors generally stimulate neural activity and promotes action, while D2-type receptors tend to inhibit neural activity and suppress movement (PubMed:11500503, PubMed:1826762, PubMed:1834671, PubMed:37221270). DRD5 acts as a key regulator of blood pressure: negatively regulates the renin-angiotensin system (RAS), thereby reducing renal sodium absorption by the kidney (By similarity).

Cellular Location Cell membrane; Multi-pass membrane protein

Tissue Location Neuron-specific, localized primarily within limbic regions of the brain.

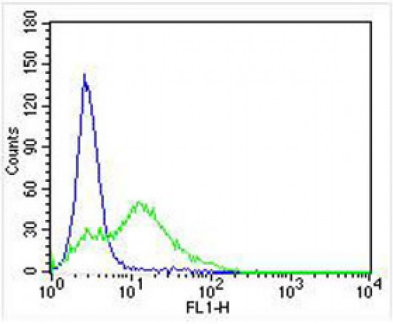
Background

Dopamine receptor whose activity is mediated by G proteins which activate adenylyl cyclase.

References

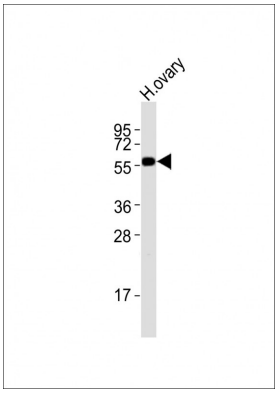
Sunahara R.K.,et al.Nature 350:614-619(1991).
Grandy D.K.,et al.Proc. Natl. Acad. Sci. U.S.A. 88:9175-9179(1991).
Weinshank R.L.,et al.J. Biol. Chem. 266:22427-22435(1991).
Puhl H.L. III,et al.Submitted (JUL-2002) to the EMBL/GenBank/DDBJ databases.
Ota T.,et al.Nat. Genet. 36:40-45(2004).

Images



Overlay histogram showing U-87 MG cells stained with AP21293b (green line). The cells were fixed with 2% paraformaldehyde (10 min) and then permeabilized with 90% methanol for 10 min. The cells were then icubated in 2% bovine serum albumin to block non-specific protein-protein interactions followed by the antibody (AP21293b, 1:25 dilution) for 60 min at 37ºC. The secondary antibody used was Alexa Fluor® 488 goat anti-rabbit lgG (H+L) (1583138) at 1/400 dilution for 40 min at 37ºC. Isotype control antibody (blue line) was rabbit IgG1 (1µg/1x10^6 cells) used under the same conditions. Acquisition of >10, 000 events was performed.

Anti-DRD5 Antibody (C-term)at 1:2000 dilution + human ovary lysates Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution Predicted band size : 53 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



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