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Anti-Dopamine Receptor D4 Antibody

Catalog # AP51169

Product Information

Application	WB, IF/IC
Primary Accession	P21917
Reactivity	Human, Mouse, Rat, Bovine, Dog
Host	Rabbit
Clonality	Polyclonal
Calculated MW	43901

Additional Information

Gene ID	1815
Other Names	D(4) dopamine receptor; D(2C) dopamine receptor; Dopamine D4 receptor
Target/Specificity	KLH-conjugated synthetic peptide encompassing a sequence within the C-term region of human Dopamine Receptor D4. The exact sequence is proprietary.
Dilution	WB~~ 1:1000 IF/IC~~N/A
Format	Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.01% sodium azide.
Storage	Store at -20 °C.Stable for 12 months from date of receipt

Protein Information

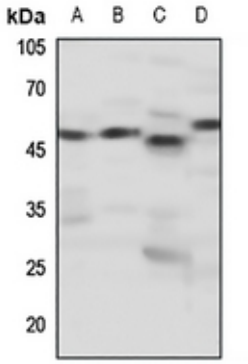
Name	DRD4 {ECO:0000303|PubMed:8353495, ECO:0000312|HGNC:HGNC:3025}
Function	G protein-coupled receptor for dopamine, a catecholamine neurotransmitter hormone that functions as the brain's 'reward chemical', driving motivation, reinforcement learning and pleasure (PubMed:16423344, PubMed:1840645, PubMed:27659709, PubMed:29051383, PubMed:37221270, PubMed:7512953, PubMed:7643093, PubMed:8078498, PubMed:8413587). In addition to dopamine, also activated by epinephrine and norepinephrine, and by numerous synthetic agonists and drugs (PubMed:16423344, PubMed:1840645, PubMed:27659709, PubMed:29051383, PubMed:9003072, PubMed:9042615). Ligand 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:16423344, PubMed:27659709, PubMed:29051383, PubMed:7512953, PubMed:7643093). Dopamine receptors can be classified in two categories: (1) DRD4 (together with DRD2 and DRD3) is a D2-type receptor and is coupled to G(i)/G(o) G proteins, mediating inhibition of adenylate

	cyclase activity, while D1-type receptors (DRD1 and DRD5) are coupled to G(s) G proteins and promote activation of adenylate cyclase activity (PubMed:16423344, PubMed:27659709, PubMed:29051383, PubMed:7512953, PubMed:7643093). 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:16423344, PubMed:27659709, PubMed:29051383, PubMed:7512953, PubMed:7643093). DRD4 is expressed in the mesolimbic system of the brain, an area of the brain that regulates emotion and complex behavior (PubMed:37221270). Modulates the circadian rhythm of contrast sensitivity by regulating the rhythmic expression of NPAS2 in the retinal ganglion cells (By similarity).
Cellular Location	Cell membrane; Multi-pass membrane protein
Tissue Location	Highly expressed in retina. Detected at much lower levels in brain, in amygdala, thalamus, hypothalamus, cerebellum and pituitary.

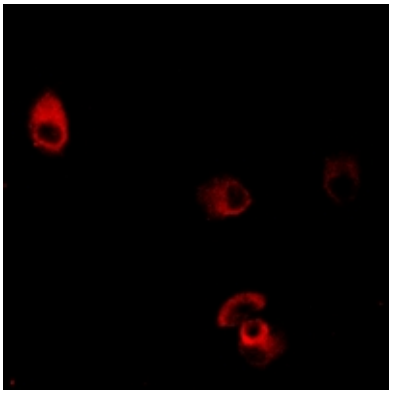
References

van Tol H.H.,et al.Nature 358:149-152(1992).
van Tol H.H.M.,et al.Nature 350:610-614(1991).
Suwa M.,et al.Submitted (JUL-2001) to the EMBL/GenBank/DDBJ databases.
Kaighin V.A.,et al.Submitted (DEC-2007) to the EMBL/GenBank/DDBJ databases.
Taylor T.D.,et al.Nature 440:497-500(2006).

Images



Western blot analysis of Dopamine Receptor D4 expression in A2780 (A), mouse brain (B), mouse heart (C), rat kidney (D) whole cell lysates. (Predicted band size: 43 kD; Observed band size: 48 kD)



Immunofluorescent analysis of Dopamine Receptor D4 staining in MCF7 cells. Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were probed with the primary antibody in 3% BSA-PBS and incubated overnight at 4 °C in a hidified chamber. Cells were washed with PBST and incubated with a AF594-conjugated secondary antibody (red) in PBS at room temperature in the dark.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.