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D4DR Polyclonal Antibody

Catalog # AP69461

Product Information

Application	WB, IF, ICC, E
Primary Accession	P21917
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	43901

Additional Information

Gene ID	1815
Other Names	DRD4; D(4) dopamine receptor; D(2C) dopamine receptor; Dopamine D4 receptor
Dilution	WB~~Western Blot: 1/500 - 1/2000. Immunofluorescence: 1/200 - 1/1000. ELISA: 1/40000. Not yet tested in other applications. IF~~1:50~200 ICC~~N/A E~~N/A
Format	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.
Storage Conditions	-20℃

Protein Information

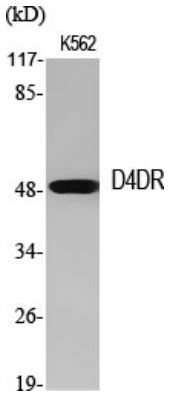
Name	DRD4 {ECO:0000303|PubMed:8353495, ECO:0000312|HGNC:HGNC:3025}
Function	G protein-coupled receptor for dopamine, a catecholamine neurotransmitter hormone that functions as the brain's 'reward chemical', driving motivation, reinforcement learning and pleasure (PubMed:16423344, PubMed:1840645, PubMed:27659709, 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.

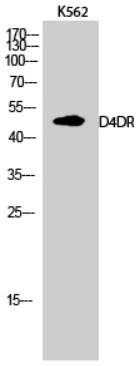
Background

Dopamine receptor responsible for neuronal signaling in the mesolimbic system of the brain, an area of the brain that regulates emotion and complex behavior. Activated by dopamine, but also by epinephrine and norepinephrine, and by numerous synthetic agonists and drugs (PubMed:9003072, PubMed:16423344, PubMed:27659709, PubMed:29051383). Agonist binding triggers signaling via G proteins that inhibit adenylyl cyclase (PubMed:7512953, PubMed:7643093, PubMed:16423344, PubMed:27659709, PubMed:29051383). Modulates the circadian rhythm of contrast sensitivity by regulating the rhythmic expression of NPAS2 in the retinal ganglion cells (By similarity).

Images



Western Blot analysis of various cells using D4DR Polyclonal Antibody



Western Blot analysis of K562 cells using D4DR Polyclonal Antibody

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