

## Product datasheet for **TA328798**

### **Drd1 Rabbit Polyclonal Antibody**

#### **Product data:**

<b>Product Type:</b>	Primary Antibodies
<b>Applications:</b>	IHC, WB
<b>Recommended Dilution:</b>	WB: 1:200-1:2000; IHC: 1:100-1:3000
<b>Reactivity:</b>	Mouse, Rat
<b>Host:</b>	Rabbit
<b>Clonality:</b>	Polyclonal
<b>Immunogen:</b>	Peptide SSHHEPRGSISKDC, corresponding to amino acid residues 372-385 of rat D1 Dopamine Receptor. Intracellular, C-terminus.
<b>Formulation:</b>	Lyophilized. Concentration before lyophilization ~0.8mg/ml (lot dependent, please refer to CoA along with shipment for actual concentration). Buffer before lyophilization: Phosphate buffered saline (PBS), pH 7.4, 1% BSA, 0.025% NaN <sub>3</sub> .
<b>Reconstitution Method:</b>	Add 50 ul double distilled water (DDW) to the lyophilized powder.
<b>Purification:</b>	Affinity purified on immobilized antigen.
<b>Conjugation:</b>	Unconjugated
<b>Storage:</b>	Store at -20°C as received.
<b>Stability:</b>	Stable for 12 months from date of receipt.
<b>Gene Name:</b>	dopamine receptor D1
<b>Database Link:</b>	<a href="#">NP_036678</a> <a href="#">Entrez Gene 13488 Mouse</a> <a href="#">Entrez Gene 24316 Rat</a>



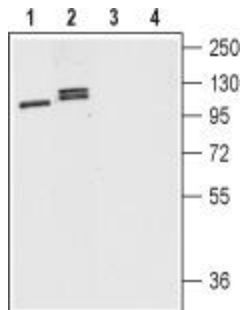
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**Background:**

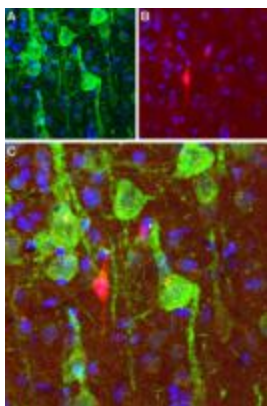
The D1 Dopamine Receptor (D1 Receptor) is one of five receptors that mediate the effects of the catecholamine neurotransmitter dopamine. Dopamine regulates a variety of functions including locomotor activity, emotion, positive reinforcement, food intake, and hormone secretion. The dopaminergic system has been extensively studied in the last thirty years mainly because its dysregulation has been linked to several neurological and neuropsychiatric diseases including Parkinson's disease and schizophrenia. All five dopamine receptors belong to the 7-transmembrane domain, G-Protein Coupled Receptor (GPCR) superfamily. Historically, the five receptors have been divided into two subfamilies based on pharmacological and structural considerations: the D1-like subfamily (that includes the D1 and D5 subtypes) and the D2-like subfamily (that includes the D2-, D3- and D4 subtypes). The D1-like Receptors are coupled to Gs-type G proteins and enhance adenylate cyclase activity while the D2-like Receptors are coupled to Gi-type G proteins and inhibit adenylate cyclase activity. The D1 Receptor is widely distributed throughout the brain with the highest expression in the cerebral cortex and striatum. In the periphery the D1 Receptor has been detected in the adrenal cortex, kidney and heart. Functionally, the D1 Receptor has been implicated in the regulation of both locomotor and cognitive functions including the maintaining of spontaneous motor behaviors, the control of working memory and cognition as well as the regulation of craving and reward pathways. In addition, D1 Receptor plays an important role in the pathogenesis of hypertension by regulating epithelial Na<sup>+</sup> transport and by interacting with vasoactive hormones/humoral factors, such as aldosterone and angiotensin.

**Synonyms:**

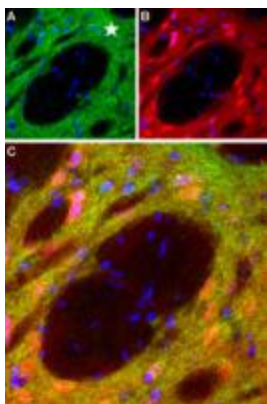
DADR; DRD1A; OTTHUMP00000161116

**Product images:**

Western blot analysis of mouse (lanes 1 and 3) and rat (lanes 2 and 4) brain lysates: 1, 2. Anti-D1 Dopamine Receptor antibody, (1:200). 3, 4. Anti-D1 Dopamine Receptor antibody, preincubated with the control peptide antigen.



IHC staining of perfusion-fixed frozen brain sections with Anti-D1 Dopamine Receptor antibody, (1:100), (green). A. D1 Dopamine Receptor appears in the soma and dendrites of cortical pyramidal neurons in layer 5. B. The same section was stained for Calbindin D28k (red), a marker of interneurons. C. Merging of the two images demonstrates that localization of D1 Dopamine Receptor is restricted to pyramidal neurons. DAPI is used as the counterstain.



Expression of D1 Dopamine Receptor in rat striatum. Immunohistochemical staining of perfusion-fixed frozen brain sections with Anti-D1 Dopamine Receptor antibody, (1:100), (green). A. D1 Dopamine Receptor appears in the striatal matrix (star). B. The same section was stained for Calbindin D28k (red), a marker of interneurons. C. Merging of the two images demonstrates that localization of D1 Dopamine Receptor is restricted to the matrix. DAPI is used as the counterstain.