

Product Specification Sheet

**Dopamine D1A Receptor (D1R)**

Cat. # D1R11-P	Rat D1 Receptor Control/bloking Peptide	<b>SIZE:</b> 100 ug
Cat. # D1R11-S	Rabbit Anti-Rat D1 Antiserum # 1	<b>SIZE:</b> 100 ul
Cat. # D1R11-A	Rabbit Anti-Rat D1 IgG # 1(aff pure)	<b>SIZE:</b> 100 ug

Dopamine is an endogenous catecholamine that influences many cellular activities, including behavior, hormone synthesis and release, blood pressure and intracellular ion transport. A family of at least 5 Dopamine Receptors (DR) genes, D1-D5, have been identified based upon the amino acid identity, pharmacological specificity and effector responses. DR have been classified into either the D1-like (D1, D1B, and D5) or D2-like (D2, D3, and D4). The two isoforms of D2R, D2 long (D2L) and short D2S), are encoded by splice variants of a single gene and differ only by the presence of an additional 29 AA in the intracellular domain 3 of the D2 long form. It may play a role in the coupling of the receptor to G-proteins. All members of this family have similar structure and contain 7 putative transmembrane domains. A given cell or tissue may express more than one DR. Specific radioligands do not exist that can differentiate between these DR. Therefore, specific antibodies are needed to distinguish, localize, and document changes in DR levels in cells and tissues under various normal and pathological conditions.

**Source of Antigen, Antibodies**

<b>Antigen</b>	13-aa peptide of rat D1R or D1A ; <b>Designated (D1R11-P or control peptide)</b> conjugated to KLH. Epitope location ~ C-terminal, Cytoplasmic
<b>Ab Host/type</b>	Rabbit, polyclonal Unpurified antiserum ( <b>cat #DIR11-S</b> ) Aff pure IgG ( <b>cat #D1R11-A</b> ) purified over antigen-agarose column
<b>2-ab</b>	<b>Goat Anti-rabbit IgG-HRP</b> cat # 20320 (AP, biotin, FITC conjugates also available)
<b>-ve control</b>	<b># 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as -ve control</b>

**Form & Storage of Antibodies/Peptide Control**

**Antiserum (unpurified)**  
100ul solution lyophilized powder  
Supplied in Buffer: 0.05% azide  
**Reconstitute** powder in 100 ul PBS

**Affinity pure IgG**  
100 ug/100ul solution lyophilized powder  
Supplied in **Buffer:** PBS+0.1% BSA  
**Reconstitute** powder in PBS at 1mg/ml

**Control/blocking peptide**  
100 ug/100 ul solution lyophilized powder  
Supplied in Buffer: PBS pH 7.5,  
**Reconstitute** powder in PBS at 1 mg/ml.

**Storage**

**Short-term:** unopened, undiluted liquid vials at 20°C and powder at 4°C or -20°C.

**Long-term:** at -20°C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

**Stability:** 6-12 months at -20°C or below.

**Shipping:** 4°C for solutions and room temp for powder

**Recommended Usage**

**Western Blotting** (1:1K-5K for antiserum and 1-10 ug/ml for affinity pure IgG using ECL), (see published refs using this antibody in 2).

**ELISA:** Control peptide can be used to coat ELISA plates at 1 ug/ml and detected with antibodies (1:10-50K for neat serum and 0.5-1 ug/ml for affinity pure).

**Histochemistry:** We recommend the use of affinity purified antibody at 2-10 ug/ml. (see published refs using this antibody in 2).

**Specificity & Cross-reactivity**

Rat D1R11-P antigenic peptide is 100% conserved in rat, pig, bovine, 92% in mouse, and 78% in human D1 (D1A/DRD1). No significant sequence homology exist with other dopamine receptors (D1B, D2-D5). Antibody crossreactivity with various species is not known. Control peptide, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-10 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity (see detailed protocol at:the web site).

**General References:** Monsama FJ et al (1990) PNAS 87, 6723-6727; Zhou, QY et al (1990) Nature 347, 76-80; Zhou QY et al (1992) J Neurochem. 59, 1875-7883; O'Dowd, BF et al (1990) FEBS Lett. 262, 8-12. Huang, Q (1992) PNAS 89, 11988-11992; Deary A et al (1990) Nature 347, 72; Sunahara RK et al (1990) Nature, 347, 80; Ohara K et al (1993) Neuropharmacol. 8, 131.

**(2) Citations of ADI's Antibodies** (see web site for updated list)

Beharay, S, 2000, Kidney Intl. 58, 712 WB,  
Banday AA, 2004, Am J Physiol Renal Physiol, 287: 109 - 116 WB,  
Marwaha A, 2004, Am J Physiol Renal Physiol, 286: 451 - 457, WB,  
Banday AA, 2003, Hypertension, 41, 1353-1358 WB,  
Umrani DN, 2002, Hypertension 40: 880 - 885 WB,  
Sutoo D 2003, Brain Research, 980, 24-30, IHC

\*This product is for In vitro research use only.

**Related material available from ADI**

Antibodies D1-D5, DAT, SERT, Dopamine

D1R11-S-A-P 71218S

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