

Product Specification Sheet

**Dopamine Transporter (DAT) Antibodies**

Cat. # DAT13-P	Human DAT Control Peptide #3	<b>SIZE:</b> 100 ug
Cat. # DAT13-S	<b>Rabbit</b> Anti-Human DAT antiserum # 3	<b>SIZE:</b> 100 ul
Cat. # DAT13-A	<b>Rabbit</b> Anti-Human DAT Ig G # 3, affinity pure	<b>SIZE:</b> 100 ugl

**Control/blocking peptide**

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.

Dopamine transporter (DAT) is plasma membrane transporter for the termination of dopaminergic neurotransmission by its high affinity Na<sup>+</sup> and Cl<sup>-</sup> reuptake of dopamine into presynaptic terminals. This protein is the target of psychomotor stimulants such as amphetamines or cocaine. DAT (human 620 aa; rat/mouse 619 aa glycoprotein) is predicted to contain 12 transmembrane domains with N and C-termini in the cytoplasm.

**Source of Antigen, Antibodies**

<b>Antigen</b>	20-aa peptide of Human DAT ; <b>Designated (DAT13-P, control/blocking peptide)</b> conjugated to KLH. Epitope location ~ C-terminus, Cytoplasmic domain
<b>Ab Host/type</b>	Rabbit, Polyclonal unpurified antiserum ( <b>#DAT13-S</b> ) and IgG, purified over antigen-agarose ( <b>Cat # DAT13-A</b> )
<b>2-Ab</b>	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
<b>-ve control</b>	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as -ve control

**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

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 Chemiluminescence technique.

**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:** not tested. We recommend the use of affinity purified antibody at 2-10 ug/ml.

**Specificity & Cross-reactivity**

Human DAT13-P peptide sequence has sequence homology with monkey (100%), mouse (90%) and rat (94%) DAT. No significant sequence homology is seen with other transporters. Antibody crossreactivity in 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:**

1. Kilty, JE et al (1991) Science 254, 578-579; Giros, B et al (1991) FEBS Lett. 295, 149-154; Shimada, S et al (1991) Science 254, 576-578; Kitayama, S et al (1992) Proc. Natl. Acad. Sci. 89, 7782-7785.
2. Freed, C et al (1995) J Comp. Neurology 359, 340-349; Vaughn, RA et al (1996) J Neurochem. 66, 2146-2152

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

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|--|--------|
| Watanabe, 2004, Eur Neuropsychopharmacol 14, 93    | IHC    |
| kurosaki 2004, Pharmacol Biochem Behavior 78, 143, | IHC    |
| Lotharius J, 2002, JBC 277, 38884-38894,           | WB IHC |
| Sutoo D 2003, Brain Research, 980, 2003, 24-30,    | IHC    |

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

DAT13-S-A-P 71218S

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