ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

Dopamine Transporter (DAT) Antibodies

Cat. # DAT15-P	Human DAT Control Peptide (EC)	**SIZE**: 100 ug
Cat. # DAT15-A	**Rabbit** Anti-Human DAT peptide (EC) IgG, Aff pure	**SIZE**: 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.

Dopamine transporter (DAT) is plasma membrane transporter for the termination of dopaminergic neurotransmission by its high affinity Na+ and Cl-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

Antigen	20-aa peptide of Human DAT (protein accession #Q01959/SLC6A3) ; **Designated (DAT15-P, control/blocking peptide**) conjugated to KLH. Epitope location ~ 1st EC domain
Ab Host/type	Rabbit, Polyclonal unpurified antiserum (**#DAT15-S**) and IgG, purified over antigen-agarose (**Cat # DAT15-A)**
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
-ve control	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as –ve control

Form & Storage of Antibodies/Peptide Control

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 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 DAT15-P peptide sequence is 100% conserved in Chimp/monkey (100%) and ~555% in mouse and rat 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)

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.

DAT15-A-P 80416A

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