

**Biotin-labeled Antibody to Dopamine Transporter (DAT-ECD)**
RAT MONOCLONAL

Catalog Number: AB-N17-BT
Quantity: 50 micrograms
Format: PBS (0.14 M Sodium Chloride; 0.003 M Potassium Chloride; 0.002 M Potassium Phosphate; 0.01 M Sodium Phosphate; pH 7.4), no preservative.
Host: Rat
Clone: hDAT-LOOP
Immunogen: GST-DAT-loop fusion protein (the second extracellular loop, consisting of amino acids 180-218)

Background: The dopamine transporter is a sodium-dependent reuptake carrier that is suspected to play a role in such neurologic and psychiatric disorders as Parkinson's disease, Tourette's disease, schizophrenia, and addiction. It is a 12-transmembrane domain transporter with the N- and C- terminus regions located within the cytoplasm. This antibody to the dopamine transporter was originally designated DAT/e2 and is now termed anti-DAT-ECD, emphasizing that it recognizes an extracellular domain.

Specificity & Preparation: This antibody recognizes the second extracellular loop of the dopamine transporter (DAT-ECD) in rat and human. It was produced in rat by immunization with a GST-DAT-loop fusion protein, then construction of a hybridoma with the murine nonsecreting myeloma cell line Sp2/0. The second extracellular loop, consisting of amino acids 180-218, was used to construct the fusion protein. It has been conjugated to biotin via an amide bond.

Usage: Applications include immunocytochemistry (0.025-10 $\mu\text{g}/\text{ml}^1$; 1-1.5 $\mu\text{g}/\text{ml}$, rat³), immunohistochemistry (1:500, human)², and immunoblotting (1:500¹; ammonium sulfate precipitated culture supernatant 1:500, rat³).

Storage: Store antibody at -20°C for one year. Avoid repeated freezing and thawing. Gently spin down material 5-10 seconds in a microfuge before use.

**Selected References:**

1. Watson CS, Alyea RA, Hawkins BE, Thomas ML, Cunningham KA, Jakubas AA (2006) Estradiol effects on the dopamine transporter - protein levels, subcellular location, and function. *J Mol Signal* 1:5.
2. Ma SY, Ciliax BJ, Stebbins G, Jaffar S, Joyce JN, Cochran EJ, Kordower JH, Mash DC, Levey AI, Mufson EJ (1999) Dopamine transporter-immunoreactive neurons decrease with age in the human substantia nigra. *J Comp Neurol* 409(1):25-37.
3. Hersch SM, Yi H, Heilman CJ, Edwards RH, Levey AI (1997) Subcellular localization and molecular topology of the dopamine transporter in the striatum and substantia nigra. *J Comp Neurol* 388(2):211-227.

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