

Phospho-Thr53 Dopamine Transporter (DAT) Antibody
Affinity purified rabbit polyclonal antibody
Catalog # AN1234

Specification

Phospho-Thr53 Dopamine Transporter (DAT) Antibody - Product Information

Application	WB
Primary Accession	P23977
Reactivity	Rat
Host	Rabbit
Clonality	polyclonal
Calculated MW	55 KDa

Phospho-Thr53 Dopamine Transporter (DAT) Antibody - Additional Information

Gene Name **SLC6A3**

Other Names

Sodium-dependent dopamine transporter, DA transporter, DAT, Solute carrier family 6 member 3, Slc6a3

Target/Specificity

Synthetic phospho-peptide corresponding to amino acid residues surrounding Thr53 conjugated to KLH.

Dilution

WB~~ 1:1000

Format

Prepared from rabbit serum by affinity purification via sequential chromatography on phospho- and dephosphopeptide affinity columns.

Antibody Specificity

Specific for the ~55k glycosylated form of the DAT protein phosphorylated at Thr53. Relative mobility may vary depending on the state of glycosylation of the DAT protein. Immunolabeling of the DAT band is blocked by preadsorption with the phospho-peptide used as antigen but not by the corresponding dephospho-peptide.

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions

Phospho-Thr53 Dopamine Transporter (DAT) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Shipping

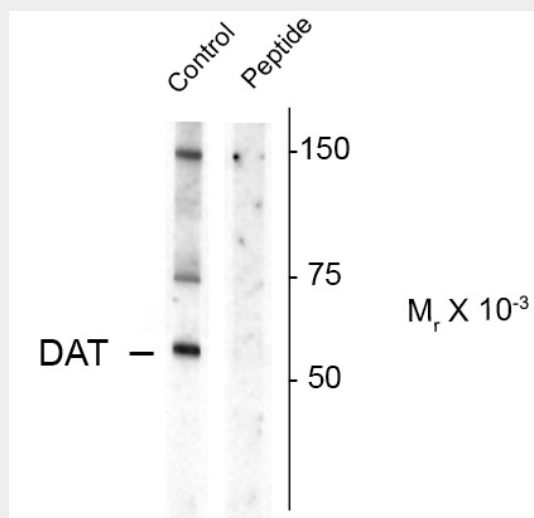
Blue Ice

Phospho-Thr53 Dopamine Transporter (DAT) Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

Phospho-Thr53 Dopamine Transporter (DAT) Antibody - Images



Western blot of rat caudate lysate showing specific immunolabeling of the ~ 55k glycosylated form of the DAT protein phosphorylated at Thr53. Immunolabeling is blocked by the phospho-peptide used as antigen (peptide), but not by the corresponding dephospho-peptide (not shown).

Phospho-Thr53 Dopamine Transporter (DAT) Antibody - Background

The dopamine transporter (DAT) is responsible for the reaccumulation of dopamine after it has been released. DAT antibodies and antibodies for other markers of catecholamine biosynthesis are widely used as markers for dopaminergic and noradrenergic neurons in a variety of applications including depression, schizophrenia, Parkinson's disease and drug abuse (Kish et al., 2001; Zhu et al., 2000; Zhu et al., 1999). Levels of DAT protein expression are altered by chronic drug administration (Wilson et al., 1996). It has been shown that phosphorylation at Thr53 directly affects dopamine influx and amphetamine-stimulated substrate efflux, indicating that the Thr53 residue plays a major role in transport activity (Foster et al., 2012).

Phospho-Thr53 Dopamine Transporter (DAT) Antibody - References

Kish SJ, Kalasinsky KS, Derkach P, Schmunk GA, Guttman M, Ang L, Adams V, Furukawa Y, Haycock JW (2001) Striatal dopaminergic and serotonergic markers in human heroin users. *Neuropsychopharmacology* 24:561-567.
Wilson JM, Kalasinsky KS, Levey AI, Bergeron C, Reiber G, Anthony RM, Schmunk GA, Shannak K, Haycock JW, Kish SJ (1996) Striatal dopamine nerve terminal markers in human, chronic methamphetamine users. *Nat Med* 2:699-703.

Zhu MY, Klimek V, Haycock JW, Ordway GA (2000) Quantitation of tyrosine hydroxylase protein in the

locus coeruleus from postmortem human brain. J Neurosci Meth 99:37-44.

Zhu MY, Klimek V, Dilley GE, Haycock JW, Stockmeier C, Overholser JC, Meltzer HY, Ordway GA (1999)

Elevated levels of tyrosine hydroxylase in the locus coeruleus in major depression. Biol Psychiatry 46:1275-1286.

James D. Foster, Jae-Won Yang, Amy E. Moritz, Sathyavathi ChallaSivaKanaka, Margaret A. Smith, Marion Holy, Kyle Wilebski, Harald H. Sitte, and Roxanne A. Vaughan (2012) Dopamine Transporter Phosphorylation Site Threonine 53 Regulates Substrate Reuptake and Amphetamine-stimulated Efflux.

Journal of Biological Chemistry 287(35):29702-29712.