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Product Datasheet

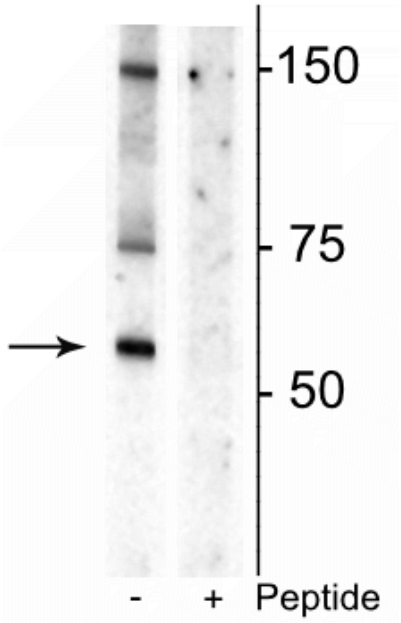
Anti-Dopamine Transporter (Thr53)

Pooled Serum

Overview

Catalog #	p435-53
Host Species	Rabbit Polyclonal
Format	Antigen Affinity Purified from Pooled Serum
Applications	WB 1:1000
Species Tested	Mouse, Rat
Immunogen	Synthetic phospho-peptide corresponding to amino acid residues surrounding Thr53 of rat dopamine transporter, conjugated to keyhole limpet hemocyanin (KLH).
Molecular Weight	55 kDa
Cite this Antibody	PhosphoSolutions Cat# p435-53, RRID: AB_2492078

Images



Western blot of rat striatal lysate showing specific immunolabeling of the ~55 kDa glycosylated form of the DAT protein phosphorylated at Thr^{53} in the first lane (-). Phosphospecificity is shown in the second lane (+) where immunolabeling is blocked by preadsorption of the phosphopeptide used as the antigen, but not by the corresponding non-phosphopeptide (not shown).

Details

Target Description	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 Thr-53 directly affects dopamine influx and amphetamine-stimulated substrate efflux, indicating that the Thr-53 residue plays a major role in transport activity (Foster et al., 2012).
Specificity	Specific for endogenous levels of the ~55 kDa glycosylated form of the DAT protein phosphorylated at Thr53. Relative mobility may vary depending on the state of glycosylation of the DAT protein. The antibody works best in lysates that have not been boiled prior to being run on an SDS-PAGE gel. Immunolabeling is blocked by preadsorption with the phosphopeptide used as antigen, but not by the corresponding non-phosphopeptide.
Production/Purification	Prepared from pooled rabbit serum by affinity purification via sequential chromatography on phospho and non-phosphopeptide affinity columns.
Quality Control	Western blots performed on each lot.
Buffer	10 mM HEPES (pH 7.5), 150 mM NaCl, 100 µg per ml BSA and 50% glycerol.
Storage	Storage at -20°C is recommended, as aliquots may be taken without freeze/thawing due to presence of 50% glycerol.
Stability	After date of receipt, stable for at least 1 year at -20°C.

Significant Citations

Samson, K.R., Xu, W., Kortagere, S. and España, R.A., 2022. Intermittent access to oxycodone decreases dopamine uptake in the nucleus accumbens core during abstinence. *Addiction Biology*, 27(6), p.e13241.

Varman, D.R., Subler, M.A., Windle, J.J., Jayanthi, L.D. and Ramamoorthy, S., 2021. Novelty-induced Hyperactivity and Suppressed Cocaine Induced Locomotor Activation in Mice Lacking Threonine 53 Phosphorylation of Dopamine Transporter. *Behavioral Brain Research*, p.113267.

Asami, M., Suzuki, Y. and Sakane, F., 2021. Dopamine and the phosphorylated dopamine transporter are increased in the diacylglycerol kinase η-knockout mouse brain. *FEBS letters*.

Alonso, I.P., Pino, J.A., Kortagere, S., Torres, G.E. and Espana, R.A., 2020. Dopamine transporter function fluctuates across sleep/wake state: potential impact for addiction. *Neuropsychopharmacology*, *46(4)*, pp.699-708.

Gowrishankar, R., Gresch, P.J., Davis, G.L., Katamish, R.M., Riele, J.R., Stewart, A.M., Vaughan, R.A., Hahn, M.K. and Blakely, R.D., 2018. Region-specific regulation of presynaptic dopamine homeostasis by D2 autoreceptors shapes the in vivo impact of the neuropsychiatric disease-associated DAT variant Val559. *Journal of Neuroscience*, 38(23), pp.5302-5312.

Foster, J.D., Yang, J.W., Moritz, A.E., ChallaSivaKanaka, S., Smith, M.A., Holy, M., Wilebski, K., Sitte, H.H. and Vaughan, R.A., 2012. Dopamine transporter phosphorylation site threonine 53 regulates substrate reuptake and amphetamine-stimulated efflux. *Journal of Biological Chemistry*, 287(35), pp.29702-29712.

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