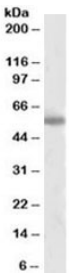
Tyrosine Hydroxylase Antibody / TH (R36337)

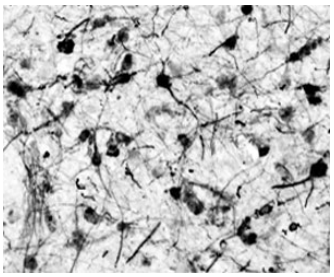
Catalog No.	Formulation	Size
R36337-100UG	0.5 mg/ml in 1X TBS, pH7.3, with 0.5% BSA (US sourced) and 0.02% sodium azide	100 ug

Bulk quote request

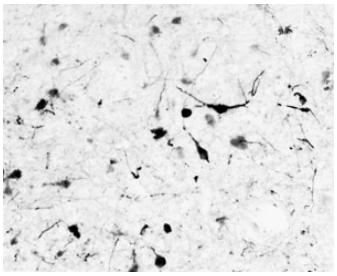
Availability	1-3 business days
Species Reactivity	Human
Predicted Reactivity	Rat, Dog
Format	Antigen affinity purified
Host	Goat
Clonality	Polyclonal (goat origin)
Isotype	Goat Ig
Purity	Antigen affinity
Gene ID	7054
Applications	Western Blot : 2-4ug/ml IHC (Frozen) : 0.1-0.3ug/ml ELISA (peptide) LOD : 1:8000
Limitations	This Tyrosine Hydroxylase antibody is available for research use only.



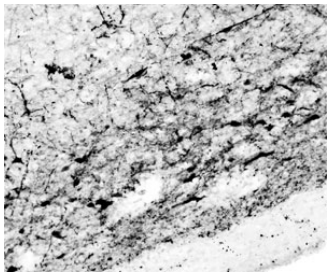
Western blot testing of human cerebral cortex lysate with Tyrosine Hydroxylase antibody at 2ug/ml. Predicted molecular weight 55~60 kDa.



IHC testing of frozen human hypothalamic supraoptic nuclei with Tyrosine Hydroxylase antibody at 0.1ug/ml. A biotin secondary followed by SAv-HRP and DAB were used for the staining.



IHC testing of frozen human hypothalamic paraventricular nuclei with Tyrosine Hydroxylase antibody at 0.1ug/ml. A biotin secondary followed by SAv-HRP and DAB were used for the staining.



IHC testing of frozen human hypothalamic periventricular nuclei with Tyrosine Hydroxylase antibody at 0.1ug/ml. A biotin secondary followed by SAv-HRP and DAB were used for the staining.

Description

Tyrosine Hydroxylase Antibody recognizes Tyrosine hydroxylase, the rate-limiting enzyme in catecholamine biosynthesis and a highly specific marker of dopaminergic and noradrenergic neurons. Tyrosine hydroxylase antibody, also widely referred to as TH antibody in neuroscience literature, targets the TH gene product responsible for catalyzing the conversion of L-tyrosine to L-DOPA, the first and regulatory step in the synthesis of dopamine, norepinephrine, and epinephrine. Because of this central biochemical role, Tyrosine Hydroxylase Antibody is extensively used as a marker of catecholaminergic neurons in the central and peripheral nervous systems.

Tyrosine hydroxylase is primarily localized to the cytoplasm of neurons in the substantia nigra pars compacta, ventral tegmental area, locus coeruleus, and sympathetic ganglia. In addition to neurons, TH expression can be detected in adrenal medullary chromaffin cells, where catecholamines are synthesized and secreted into circulation. Tyrosine Hydroxylase Antibody therefore serves as a robust tool for identifying dopaminergic neurons, sympathetic fibers, and neuroendocrine cells in both experimental and translational research settings.

At the molecular level, Tyrosine hydroxylase is a tetrahydrobiopterin-dependent monooxygenase regulated by phosphorylation at multiple serine residues. These phosphorylation events modulate enzymatic activity and catecholamine production in response to neuronal stimulation and stress. Altered TH expression or activity has been implicated in neurologic disorders including Parkinson disease, where loss of TH-positive neurons in the substantia nigra correlates with dopamine deficiency. Reduced TH immunoreactivity is commonly used as a readout of dopaminergic neuron degeneration in experimental models of neurotoxicity and neurodegeneration.

In oncology and pathology research, Tyrosine Hydroxylase Antibody is also used to evaluate neuroblastoma, pheochromocytoma, and other catecholamine-producing tumors. Nuclear staining is not expected, as Tyrosine hydroxylase is a cytoplasmic enzyme; immunohistochemical labeling typically appears as granular cytoplasmic staining in positive cells. Clone-specific reagents such as TH antibody clones are designed to detect endogenous Tyrosine hydroxylase protein in research applications and provide clear visualization of catecholaminergic cell populations.

By targeting the key enzyme in catecholamine biosynthesis, Tyrosine Hydroxylase Antibody remains an essential reagent for studies of dopamine signaling, autonomic nervous system biology, stress responses, and neurodegenerative disease mechanisms.

Application Notes

Optimal dilution of the Tyrosine Hydroxylase antibody should be determined by the researcher.

Immunogen

Amino acids VQDELDTLAHAL were used as the immunogen for this Tyrosine Hydroxylase antibody.

Storage

Aliquot and store the Tyrosine Hydroxylase antibody at -20oC.

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