



Tyrosine Hydroxylase

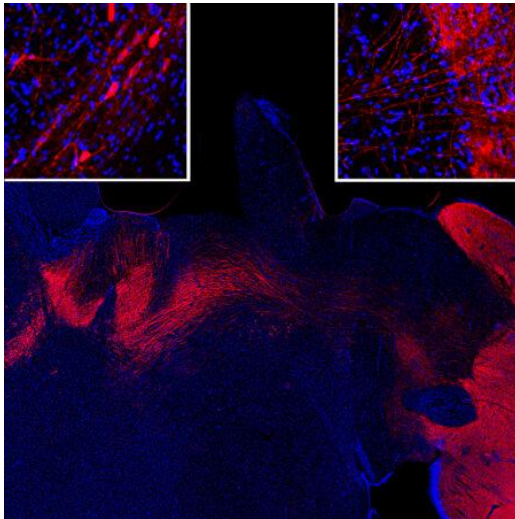
Data Sheet

Catalog Number:	GT22110	Host:	Goat
Product Type:	Goat Polyclonal	Species Reactivity:	Human, Rat, Mouse
Immunogen Sequence:	Full length human TH expressed in and purified from <i>E. coli</i> .	Format:	Affinity purified antibody at 1mg/mL in 50% PBS, 50% glycerol plus 5mM NaN3
Applications:	Immunofluorescence: 1:2,000 Western Blot: 1:2,000		
Storage:	Dilutions listed as a recommendation. Optimal dilution should be determined by investigator. Antibody can also be aliquotted and stored frozen at -20° C in a manual defrost freezer for six months without detectable loss of activity. The antibody can be stored at 2° - 8° C for 1 month without detectable loss of activity. Avoid repeated freeze-thaw cycles.		

Application Notes

Description/Data

Tyrosine hydroxylase (TH) is a vital enzyme responsible for the generation of L-DOPA from the amino acid tyrosine. L-DOPA is the direct precursor of the neurotransmitter dopamine, and dopamine can itself be processed to produce the neurotransmitters adrenalin and noradrenalin (a.k.a. epinephrin and norepinephrin respectively). Neurons which use dopamine, adrenalin or noradrenaline, called collectively catecholamines, must express TH. TH has a very restricted distribution in the brain but is highly expressed in the cells in which it is found. As a result antibodies to TH are useful for the identification of catecholaminergic neurons. TH positive neurons in the rat are localized into clusters of cells most of which are in the brain stem, including notably the substantia nigra and locus ceruleus. Parkinson's disease is caused by the loss of TH positive dopaminergic neurons in the substantia nigra, which are also relatively low in number, and perturbation of TH neurons has been implicated in Alzheimer's disease and schizophrenia.



GT22110 was made against full length recombinant human TH based on the 524 amino acid sequence in NP_954987.2, expressed in and purified from *E. coli*. The antibody works well on cells in culture and tissue sections.

Image: Immunofluorescent analysis of rat brain sections stained with goat pAb to tyrosine hydroxylase, dilution 1:2,000, in red. The blue is Hoechst staining of nuclear DNA. Following transcardial perfusion of rat with 4% paraformaldehyde, brain was post fixed for 24 hours, cut to 45µM, and free-floating sections were stained with above antibodies. The antibody strongly and specifically stains the striatal TH-expressing interneurons. Inset top left shows neuronal cell bodies and top right shows beaded process, while the main image shows an overview of the caudate/putamen and TH positive nerve fibers.

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