Datasheet: AHP912

Description:	RABBIT ANTI TYROSINE HYDROXYLASE (pSer40)
Specificity:	TYROSINE HYDROXYLASE (pSer40)
Format:	Purified
Product Type:	Polyclonal Antibody
Isotype:	Polyclonal IgG
Quantity:	0.1 ml

Product Details

Applications

This product has been reported to work in the following applications. This information is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information. For general protocol recommendations, please visit www.bio-rad-antibodies.com/protocols.

	Yes	No	Not Determined	Suggested Dilution
Flow Cytometry			▪	
Immunohistology - Frozen	▪			1/1000
Immunohistology - Paraffin			▪	
ELISA			▪	
Immunoprecipitation			▪	
Western Blotting (1)	▪			1/1000
Immunofluorescence	▪			1/1000

Where this antibody has not been tested for use in a particular technique this does not necessarily exclude its use in such procedures. Suggested working dilutions are given as a guide only. It is recommended that the user titrates the antibody for use in their own system using appropriate negative/positive controls.

(1) **For the detection of phosphoproteins, serine phosphatase inhibitors such as 10mM Sodium Fluoride should be added to the sample buffer. Milk or other casein-based blocking solutions are not recommended as casein is a phosphoprotein and its use can result in high background.**

Target Species	Rat
Species Cross Reactivity	Based on sequence similarity, is expected to react with:Mouse, Rat, Human, Pig **N.B.** Antibody reactivity and working conditions may vary between species.
Product Form	Purified IgG - liquid
Antiserum Preparation	Antisera to phosphorylated tyrosine hydroxylase were raised by repeated immunisations of rabbits with highly purified antigen. Purified IgG prepared by affinity chromatography.
Buffer Solution	10mM HEPES pH7.5
Preservative Stabilisers	0.09% Sodium Azide 0.01% Bovine Serum Albumin 50% Glycerol

Immunogen	Synthetic phosphopeptide corresponding to an amino acid sequence within Tyrosine Hydroxylase which includes the phosphorylated residue Ser 40.
External Database Links	**UniProt:** P07101 Related reagents **Entrez Gene:** 7054 TH Related reagents
Synonyms	TYH
Specificity	**Rabbit anti Rat tyrosine hydroxylase (pSer40) antibody** recognizes tyrosine hydroxylase (TH), also known as tyrosine 3-monooxygenase, when phosphorylated at serine 40. Tyrosine hydroxylase (TH) catalyzes the rate-limiting step in the biosynthetic pathway of the catecholamines dopamine (DA), norepinephrine, and epinephrine. The enzyme exists as a tetramer, with each subunit composed of an N-terminal regulatory domain and a C-terminal catalytic domain. Phosphorylation of TH has been shown to occur at several serine residues. Phosphorylation at serine 40 results in an increase in hydroxylase activity, and phosphorylation at serine 19 is reported to promote phosphorylation of the serine 40 residue (Dunkley *et al*. 2004). Tyrosine hydroxylase is regularly used as a marker for dopaminergic neurons, which is particularly relevant for research into Parkinson's disease (Pearson *et al* 1979).
Western Blotting	AHP912 detects a band of approximately 60kDa in PC-12 cell lysates, following stimulation by Okadaic acid.
References	1. Xiao, M.F. *et al.* (2009) Neural cell adhesion molecule modulates dopaminergic signaling and behavior by regulating dopamine D2 receptor internalization. J Neurosci. 29 (47): 14752-63. 2. Haycock, J.W. (1990) Phosphorylation of tyrosine hydroxylase in situ at serine 8, 19, 31, and 40. J Biol Chem. 265 (20): 11682-91. 3. Hoard, J.L. *et al.* (2008) Cholinergic neurons of mouse intrinsic cardiac ganglia contain noradrenergic enzymes, norepinephrine transporters, and the neurotrophin receptors tropomyosin-related kinase A and p75. Neuroscience. 156 (1): 129-42. 4. Li, S. *et al.* (2013) The neural cell adhesion molecule (NCAM) associates with and signals through p21-activated kinase 1 (Pak1). J Neurosci. 33 (2): 790-803.
Further Reading	1. Bevilaqua, L.R. *et al.* (2001) Phosphorylation of Ser(19) alters the conformation of tyrosine hydroxylase to increase the rate of phosphorylation of Ser(40). J Biol Chem. 276 (44): 40411-6.
Storage	Store at +4^{o}C or at -20^{o}C if preferred. Storage in frost-free freezers is not recommended. This product should be stored undiluted. Avoid repeated freezing and thawing as this may denature the antibody. Should this product contain a precipitate we recommend microcentrifugation before use.
Shelf Life	12 months from date of despatch.
Health And Safety Information	Material Safety Datasheet documentation #10088 available at: 10088: https://www.bio-rad-antibodies.com/uploads/MSDS/10088.pdf

Regulatory	For research purposes only

Related Products

Recommended Secondary Antibodies

Sheep Anti Rabbit IgG (STAR34...)	FITC
Sheep Anti Rabbit IgG (STAR35...)	RPE
Goat Anti Rabbit IgG (H/L) (STAR124...)	HRP
Goat Anti Rabbit IgG (Fc) (STAR121...)	Biotin, FITC, HRP
Sheep Anti Rabbit IgG (2AB02...)	Biotin
Sheep Anti Rabbit IgG (STAR36...)	DyLight®488, DyLight®549, DyLight®649, DyLight®680, DyLight®800

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