Hello Bio, Inc.
304 Wall St., Princeton, NJ 08540 USA

T. 609-683-7500
F. 609-228-4994

customercare-usa@hellobio.com

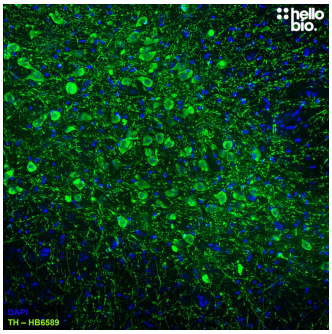
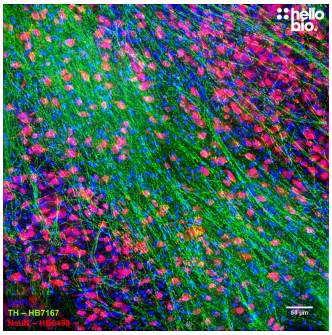
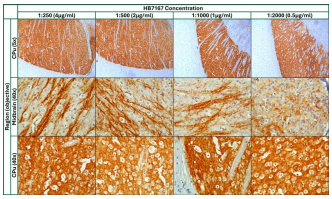
DATASHEET

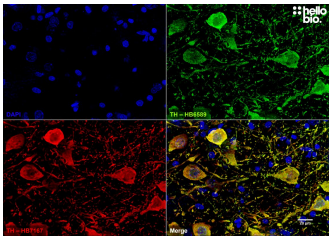
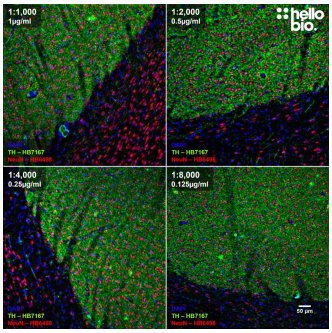
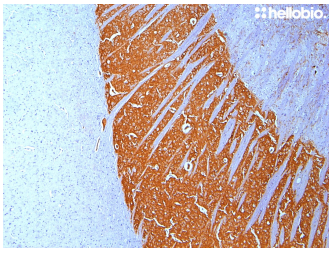
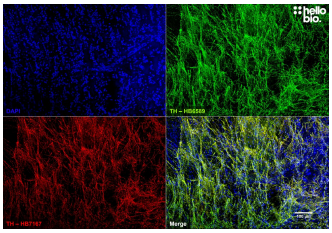
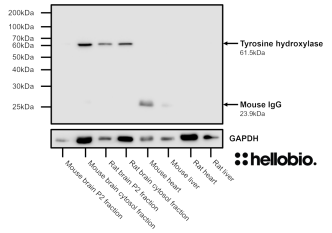
Anti-Tyrosine hydroxylase antibody ValidAb™

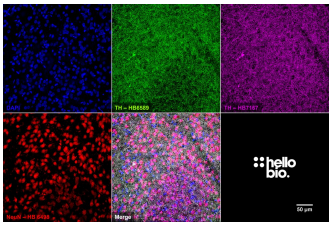
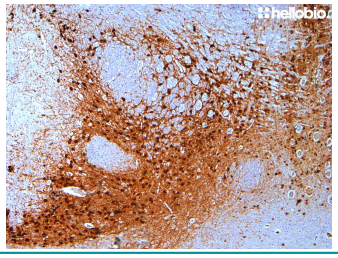
Product overview

Name	Anti-Tyrosine hydroxylase antibody ValidAb™
Cat No	HB7167
Host	Mouse
Clonality	Monoclonal
Target	Tyrosine hydroxylase
Description	Antibody to tyrosine hydroxylase (TH) - the rate limiting enzyme in catecholamine synthesis and used as a marker for catecholaminergic (dopaminergic and noradrenergic) neurones in the CNS. Part of the ValidAb™ range of highly validated, data-rich antibodies.

Validation data

Product information

Immunogen	PC12 cell derived tyrosine hydroxylase
Clone number	LNC1
Isotype	IgG1
Purification	Protein G affinity chromatography
Concentration	1 mg/ml

Formulation	Lyophilised. When reconstituted contains 10 mM Tris (pH7.4), 50 mM NaCl, 1% recombinant BSA and 0.065% Sodium Azide
Predicted species reactivity	Mouse, Rat, Human, Zebrafish, Chicken
Tested species reactivity	Mouse, Rat

Tested applications

Applications	IHC-P, WB, IHC(IF)
Western blot optimal concentration	1:1000 (1µg/ml) as tested in a rat brain cytosol preparation
IHC(IF) optimal concentration	1:2000 (0.5µg/ml) as tested in paraformaldehyde fixed free-floating rat striatal brain sections
IHC-P optimal concentration	1:1000 (1µg/ml) as tested in paraffin embedded rat horizontal brain sections using streptavidin-HRP detection system.
Positive control	Tissue known to have a high expression of catecholaminergic neurones (e.g. striatum or substantia nigra). PC-3 and SK-BR-3 cell lines also show tyrosine hydroxylase expression.
Negative control	Areas of the brain with low expression of catecholaminergic neurones (e.g. cortex). Most cells lines do not express TH (e.g. HEK293, HeLa, SH-SY5Y).
Open data link	Please follow this link to the OSF

Target information

Other names	Tyrosine 3-monooxygenase, Tyrosine 3-hydroxylase, TH
UniProt ID	P07101
Gene name	TH
NCBI full gene name	tyrosine hydroxylase
Entrez gene ID	7054
Amino acids	528 (58.6kDa)
Isoforms	Tyrosine hydroxylase has 6 isoforms produced by alternative splicing: • Isoform 3 / TH type 4 (canonical) - 528aa, 58.6kDa. • Isoform 1 / TH type 3 - 524aa, 58.1kda, • Isoform 2 / TH type 1/HTH-1 - 497aa, 55,6kDa, • Isoform 4 / TH type 2/hTH-Delta2 - 501aa, 56.0kda, • Isoform 5 / hTH-Delta,2,8,9 - 407aa, 45.3kDa, • Isoform 6 / hTH-Delta1b,2,8,9 - 403aa 44.9kDa
Expression	Mainly expressed in the dopaminergic, noradrenergic and other catecholingergic neurones in the brain and adrenal glands. There is also lower peripheral expression in a variety of tissues.
Subcellular expression	Expression is enriched in axon terminals alongside cytosolic and perinuclear expression.
Processing	None
Post translational modifications	Subject to phosphorylation on Ser19, Ser62, Ser71 and Ser502.
Homology (compared to human)	Mouse and rat show 82.8% and 83.7% identity to human tyrosine hydroxylase respectively in a BLAST search.
Similar proteins	The following proteins were identified as being similar in a BLAST search: • Phenylalanine-4-hydroxylase – 52.8% identity • Tryptophan-5-hydroxylase 1 – 50.1% identity • Tryptophan-5-hydroxylase 2 – 52.1% identity

Storage & Handling

Storage instructions	-20°C then use reconstitution advice
Reconstitution advice	Upon receipt store at either -20°C or -80°C. For 100µg packs either: • Reconstitute with 100µl dH_2O and store at 4°C • Reconstitute with 50µl dH_2O and 50µl glycerol then store at -20°C • Reconstitute with 100µl dH_2O, aliquot then snap freeze and store at -80°C For 25µg packs either: • Reconstitute with 25µl dH_2O and store at 4°C

- Reconstitute with 12.5µl dH_2O and 12.5µl glycerol then store at -20°C
- Reconstitute with 25µl dH_2O, aliquot then snap freeze and store at -80°C

	For more information read our guide on the best care for your product. Take care when opening as the precipitate is extremely light and can easily be lost if disturbed. When reconstituting make sure that the antibody is thoroughly dissolved by pipetting up and down before giving the antibody a brief spin at 10,000g to make sure that all material is recovered and at the bottom of the tube.
Important	This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use

References

Drug-induced changes in brain tyrosine hydroxylase activity in vivo.

Leonard BE (1977) Neuropharmacology 16
PubMedID 13325

Tyrosine hydroxylase phosphorylation: regulation and consequences.

Dunkley PR et al (2004) Journal of neurochemistry 91
PubMedID 15569247

Tyrosine hydroxylase deficiency: a treatable disorder of brain catecholamine biosynthesis.

Willemsen MA et al (2010) Brain : a journal of neurology 133
PubMedID 20430833

Tyrosine hydroxylase and regulation of dopamine synthesis.

Daubner SC et al (2011) Archives of biochemistry and biophysics 508
PubMedID 21176768

Drug-induced changes in brain tyrosine hydroxylase activity in vivo.

Leonard BE (1977) Neuropharmacology 16
PubMedID 13325