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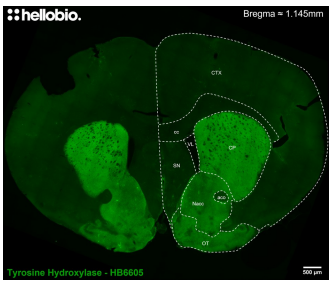
DATASHEET

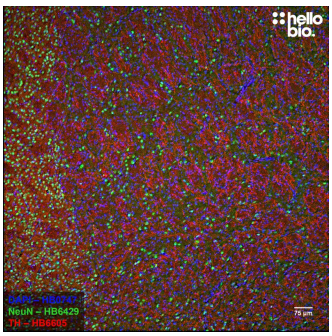
Anti-Tyrosine hydroxylase antibody ValidAb™

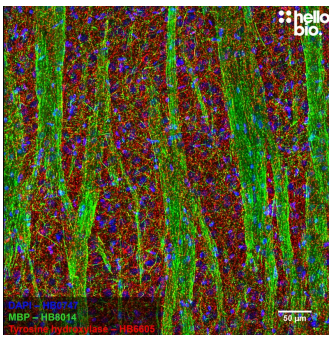
Product overview

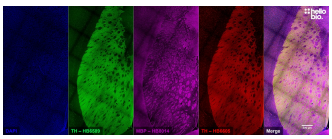
Name	Anti-Tyrosine hydroxylase antibody ValidAb™
Cat No	HB6605
Alternative names	Tyrosine 3-monooxygenase, Tyrosine 3-hydroxylase, TH
Host	Rabbit
Clonality	Polyclonal
Target	Tyrosine hydroxylase
Description	Antibody to tyrosine hydroxylase (TH) - the rate limiting enzyme in catecholamine synthesis and used as a marker for catecholaminergic (dopaminergic and noradrenergic) neurones in the CNS. Part of the ValidAb™ range of highly validated, data-rich antibodies.

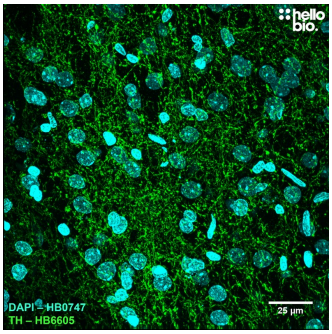
Validation data

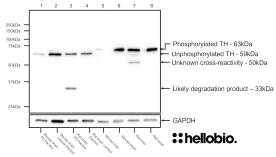


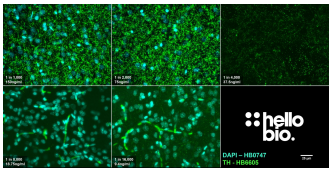


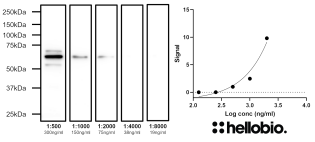


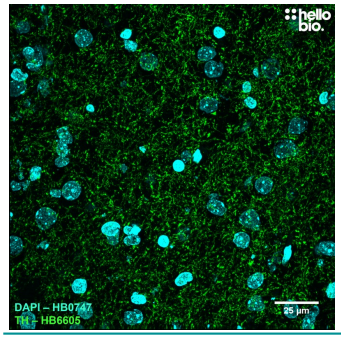












Product information

Immunogen	Denatured tyrosine hydroxylase purified from a rat phaeochromocytoma (adrenal medulla tumour)

Isotype	IgG
Purification	Immunogen affinity chromatography
Concentration	0.15 mg/ml
Formulation	10 mM HEPES (pH 7.5), 150 mM NaCl, 100µg/ml BSA, 0.05% sodium azide and 50% glycerol.
Predicted species reactivity	Mouse, Rat
Tested species reactivity	Mouse, Rat

Tested applications

Applications	WB, IHC(IF)
Western blot optimal concentration	1:1000 (150ng/ml) as tested in a rat brain cytosol preparation
IHC(IF) optimal concentration	1:2000 (75ng/ml) as tested in rat striatal brain sections
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 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 phosphorlyation 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
Important	This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use

References

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

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

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Tyrosine hydroxylase phosphorylation: regulation and consequences.

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PubMedID 15569247

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

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