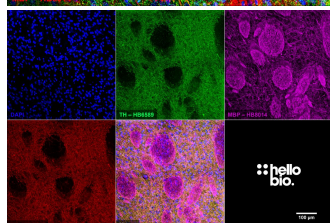
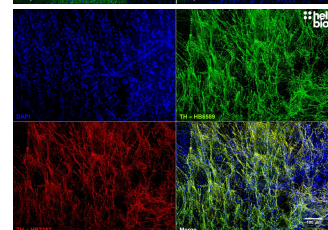
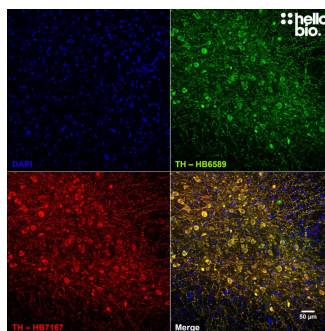
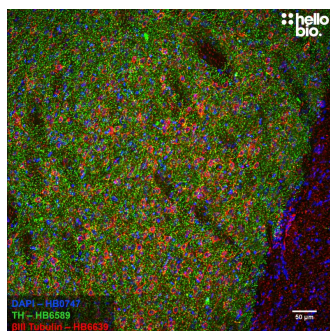
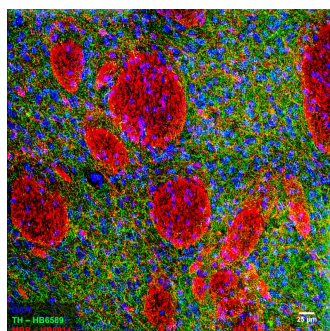
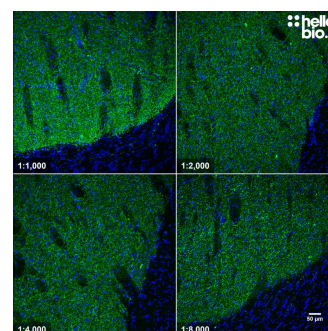
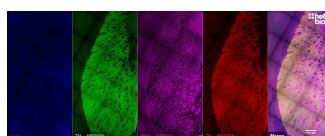
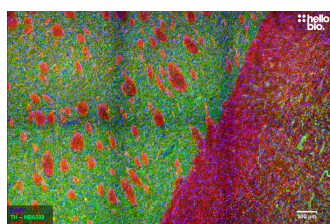
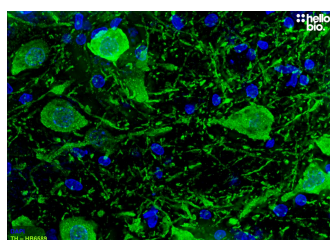


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Anti-Tyrosine hydroxylase antibody ValidAb™

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.



Mouse, Rat, Human

Tested applications

Applications	IHC(IF)
IHC(IF) optimal concentration	1:4000 (0.25µg/ml) as tested in paraformaldehyde fixed rat horizontal 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 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: <ul style="list-style-type: none">• 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 catecholingeric 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: <ul style="list-style-type: none">• 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	We recommend reconstituting with either: <ul style="list-style-type: none">• dH₂O and storing at 4 °C• 50:50 ratio of dH₂O to glycerol and storing at -20 °C• dH₂O then aliquot and store at -80 °C <p>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.</p>
Important	For more information please see our detailed guide on storing and using your antibody This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use

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