

Anti-Phospho-Ser40 Tyrosine Hydroxylase Antibody

Product Data Sheet · P/N 74118 Rev 01 · Reissued 2026-09-19 (layout only)

Product code	Pack size
P41301-100	100 µL
Host Species	Rabbit (Polyclonal)
Mr (kDa)	60

Description

Tyrosine hydroxylase (TH) is the rate-limiting enzyme in the synthesis of the catecholamines dopamine and norepinephrine. TH antibodies can therefore be used as markers for dopaminergic and noradrenergic neurons in a variety of applications including depression, schizophrenia, Parkinson's disease and drug abuse (Kish et al., 2001; Zhu et al., 2000; Zhu et al., 1999). TH antibodies can also be used to explore basic mechanisms of dopamine and norepinephrine signaling (Witkovsky et al., 2000; Salvatore et al., 2001; Dunkley et al., 2004). The activity of TH is also regulated by phosphorylation (Haycock et al., 1982;

Haycock et al., 1992; Jedynek et al., 2002). Phospho- specific antibodies for the phosphorylation sites on TH can be used to great effect in studying this regulation and in identifying the cells in which TH phosphorylation occurs.

Immunogen

Phosphopeptide corresponding to amino acid residues surrounding the phospho-Ser40 of rat tyrosine hydroxylase. Some higher molecular weight bands may be detected by the antibody depending upon the brain region being studied, protein loads and the detection methods used. The antibody has three orders of magnitude selectivity over dephospho TH.

Species Reactivity

The antibody has been directly tested for reactivity in Western blots with many mammalian and non-mammalian species.

Physical State

Liquid; Buffer contents: 10 mM HEPES (pH 7.5), 150 mM NaCl, 100 µg per mL BSA and 50% glycerol

Purification Method

Prepared from rabbit serum by affinity purification via sequential chromatography on phospho- and dephosphopeptide affinity columns.

Recommended Antibody Dilutions

WB, IF, IHC: 1:1000

Storage/Stability

Stable at -20 °C for at least 1 year.

For long term storage -20 °C is recommended

Shipping Conditions

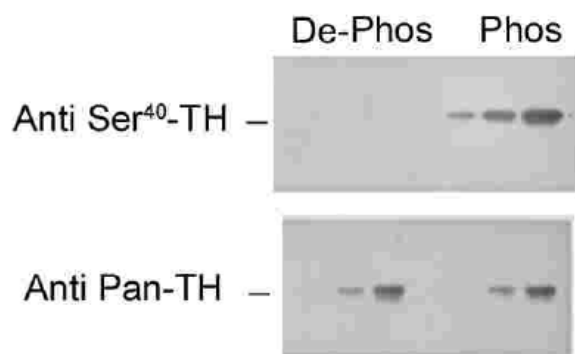
Domestic: Blue Ice

International: Blue Ice or Dry Ice

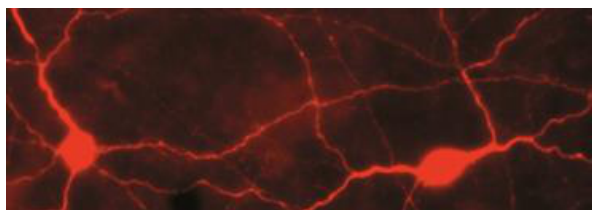
References

- 1) Dunkley PR et al. (2004) J Neurochem 91:1025-1043.
- 2) Haycock JW et al. (1992) Proc Natl Acad Sci (USA) 89:2365-2369.

- 3) Haycock JW et al. (1982) J Biol Chem 257:13699-13703.
- 4) Kish SJ et al. (2001) Neuropsychopharmacology 24:561-567.
- 5) Zhu MY et al. (2000) J Neurosci Meth 99:37-44.
- 6) Zhu MY et al. (1999) Biol Psychiatry 46:1275-1286.



Immunostaining Light-stimulated rabbit retina showing labeling of TH when phosphorylated at Ser40



Western Blot Western blot of recombinant phospho- and dephospho-TH showing selective immunolabeling by the phospho-specific antibody of the ~60k TH phosphorylated at Ser40. The pan-specific antibody (anti-pan-TH) recognized both the phospho- and dephospho-TH; while most importantly, the phospho-specific antibody (anti-Ser40 TH) recognized only phospho-TH.

For research use or further manufacturing only. Not for use in diagnostic procedures, or for human or animal consumption.