

PRODUCT DATA SHEET

Product Name: ANTI-PHOSPHO-Ser⁴⁰ TYROSINE HYDROXYLASE ANTIBODY

Product Code: P41301-100

Pack Size: 100 µL

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.

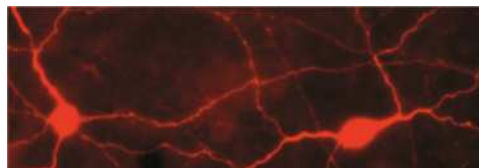
Physical State: Liquid; Buffer contents: 10 mM HEPES (pH 7.5), 150 mM NaCl, 100 µg per mL BSA and 50% glycerol

Storage/Stability: Stable at -20 °C for at least 1 year. For long term storage -20 °C is recommended

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

Shipping Conditions: Domestic: Blue Ice
 International: Blue Ice or Dry Ice

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



Host Species: Rabbit (Polyclonal)

Mr (kDa): 60

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.

Recommended Antibody Dilutions:

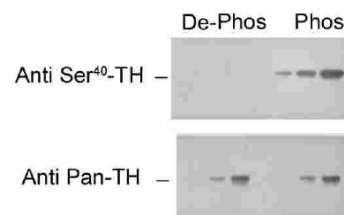
WB, IF, IHC: 1:1000

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.

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.



Application Key: WB – Western Blot IF – Immunofluorescence IHC – Immunohistochemistry IP – Immunoprecipitation