Anti-Phospho-Ser$^{31}$ Tyrosine Hydroxylase

**Catalog Number:** p1580-31  
**Size:** 100 µl

**Product Description:** Affinity purified rabbit polyclonal antibody

**Applications:**  
- **WB:** 1:1000  
  - IF (frozen sections; Witkovsky et al., 2000): 1:1000  
  - IHC (frozen sections; Witkovsky et al., 2000): 1:1000

**Antigen:** Phosphopeptide corresponding to amino acid residues surrounding the phospho-Ser$^{31}$ of rat Tyrosine Hydroxylase. The sequence of the immunogen is identical in mouse and rat.

**Biological Significance:** 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; Jedynak 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.

**Western Blot** of PC-12 cells that had been incubated in the absence or presence of Okadaic Acid. Labeling by the Anti-phospho Ser$^{31}$ TH antibody is seen only in the sample stimulated with Okadaic Acid (1 µM for 60 minutes).

**Packaging:** 100 µl in 10 mM HEPES (pH 7.5), 150 mM NaCl, 100 µg per ml BSA and 50% glycerol. Adequate amount of material to conduct 10-mini Western Blots.

**Storage and Stability:** For long term storage –20°C is recommended. Stable at –20°C for at least 1 year.

**Shipment:** Domestic - Blue Ice; International – Blue Ice or Dry Ice.
**Purification Method:** Prepared from rabbit serum by affinity purification via sequential chromatography on phospho- and dephosphopeptide affinity columns.

**Antibody Specificity:** Specific for the ~60k Tyrosine Hydroxylase protein phosphorylated at Ser\(^{31}\) in Western Blots of PC-12 cell lysates.

**Quality Control Tests:** Western blots performed on each lot.

**References:**