

Tyrosine Hydroxylase Ready-To-Use IHC Kit

Cat.No: IHC0220
Applications: **IHC-P**
Reactivity: Human, Mouse, Rat
Size: 50T
Assay type: Immunohistochemistry
Sample type: FFPE tissue
General Information:

| Number | Component | Size | Concentration | Storage |
|--------|--|----------|---------------|---------------------------|
| 1 | PBS Buffer (powder) | 2 L×2 | 20x | RT |
| 2 | Antigen Retrieval Buffer | 20 ml | 100x | 2-8°C |
| 3 | Endogenous Peroxidase Blocking Buffer | 3 ml | RTU | 2-8°C, protect from light |
| 4 | Blocking Buffer | 3 ml | RTU | 2-8°C |
| 5 | Primary Antibody (Tyrosine Hydroxylase Recombinant Rabbit mAb) | 6 ml | RTU | 2-8°C |
| 6 | Secondary Antibody (Goat Anti-Rabbit IgG H&L / HRP) | 6 ml | RTU | 2-8°C |
| 7 | Chromogen Component A | 0.3 ml | RTU | -20°C, protect from light |
| 8 | Chromogen Component B | 0.3 ml | RTU | -20°C |
| 9 | Counter Staining Reagent | 5 ml | RTU | RT |
| 10 | Mounting Media | 5 ml | RTU | RT |
| 11 | Control slide (Human adrenal gland; rat brain; mouse brain) | 3 slides | RTU | RT |
| 12 | Datasheet | 1 copy | | |

Storage and Stability: Please store components at the temperatures indicated on the individual tube labels. The kit is stable for 6 months from the date of receipt.

Immunohistochemistry Protocol:

1. Deparaffinization And Rehydration

Immerse slides in fresh xylene for 15 minutes and then repeat two more times using separate containers. Immerse slides sequentially in 100%, 95%, 90%, 80%, and 70% ethanol solutions for 5 minutes each. Rinse slides 3 times with distilled water for 5 minutes each.

2. Antigen Retrieval

Add 100× **Antigen Retrieval Buffer** into distilled water to prepare a 1× solution. Boil slides in 1× solution at 95°C-100°C for 15 minutes. Move the slides to 1× solution at room temperature (RT) and allow them to stand for 20 minutes. Rinse 3 times with **PBS Buffer** (dissolve the powder in 2L distilled water) for 5 minutes each.

3. **Block Endogenous Peroxidase**

Drain the liquid off the slides and then use a hydrophobic IHC pen to draw circles on the slides around tissue sections. Add 2-4 drops of **Endogenous Peroxidase Blocking Buffer** directly on slides, covering the whole tissue and block slides for 15 minutes at RT. Rinse 3 times with **PBS Buffer** for 5 minutes each.

4. **Serum Blocking**

Block with 2-4 drops of **Blocking Buffer** for 20 minutes at RT.

5. **Primary Antibody Incubation**

Drain blocking buffer from slides. Incubate slides with 2-4 drops of **Tyrosine Hydroxylase Recombinant Rabbit mAb** overnight at 4°C or 1-2 hours at RT. Rinse 3 times with **PBS Buffer** for 5 minutes each.

6. **Secondary Antibody Incubation**

Incubate slides with 2-4 drops of **Goat Anti-Rabbit IgG H&L / HRP** for 1-2 hours at RT. Rinse slides 3 times with **PBS Buffer** for 5 minutes each.

7. **Signal Development**

Remove residual liquid around the tissue section. Add 50ul fresh **DAB Buffer (Chromogen Component A : Chromogen Component B : PBS Buffer=1:1:18)** to cover the tissue. Monitor the reaction under the microscope until a brown color is visible (approximate 3-5 minutes at RT). Stop reaction immediately by rinsing with distilled water. Rinse slides 3 times with distilled water for 5 minutes each.

8. **Counterstain**

Counterstain with an appropriate amount of **Counter Staining Reagent** for 3-5 minutes at RT. Rinse slides with distilled water for 5 minutes. Use 2-4 drops of **Differentiation reagent** to cover the tissue for 30 seconds. Rinse slides twice with distilled water for 5 minutes each.

9. **Dehydration Sheet**

Immerse slides sequentially in 70%, 80%, 90%, 95%, and 100% ethanol for 5 minutes each at RT. Immerse slides in 2 changes of fresh xylene, 15 minutes each. Drop some **Mounting Media** on the tissue. Mount coverslips.

Notes:

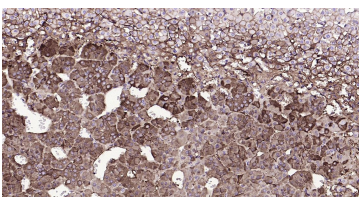
1. The positive control slide provided in the kit allows you to be sure that the experimental set-up is working properly.
2. Do not allow slides to dry at any time during this procedure.

3. Please don't replace the matching reagents in this product with other manufacturers' products.
4. As DAB is a carcinogen, please take necessary precautions.
5. PBS (reagent 1) can be stored for one week at 4°C after preparation; The antigen retrieval buffer (1× reagent 2) and the chromogenic agent (the mixture of reagents 7 and 8) should be prepared right before each assay.

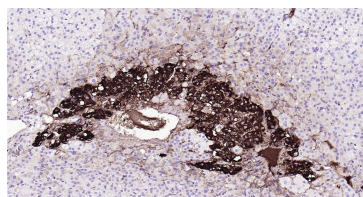
Please cite this product as "IHC0220, Bioss Antibodies". Citation example: "Tissue sections using TH IHC Kit (IHC0220, Bioss Antibodies) were stained for TH according to the manufacturer's instructions."

Introduction: Tyrosine hydroxylase (TH) is an enzyme involved in the synthesis of catecholamine neurotransmitters dopamine, epinephrine, and norepinephrine. In all species, catecholamine synthesis is regulated by the interaction of TH with a cofactor, tetrahydrobiopterin (BH4). BH4 binds to the TH catalytic domain, resulting in enzymatic activity. Unlike TH in non-primate species, four human TH mRNA splice variants (hTH1-hTH4) have been isolated. These variants are identical in their catalytic domain, but differ in their N-terminal, regulatory domains. TH is also responsible for the conversion of L-tyrosine to L-dopa. TH plays a key role in the physiology of adrenergic neurons. The role of TH in the synthesis of catecholamine neurotransmitters suggests a correlation between the enzyme and a number of neuropathogenic diseases including: Parkinson's disease, schizophrenia, Segawa syndrome, and dystonia, as well as a variety of cardiovascular diseases.

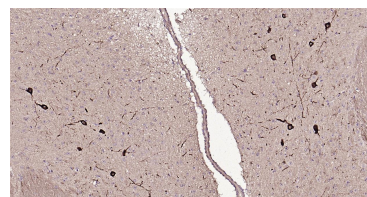
Validation Data



Immunohistochemical analysis of paraffin embedded rat adrenal gland tissue slide using IHC0220 (Tyrosine Hydroxylase IHC Kit).



Immunohistochemical analysis of paraffin embedded human adrenal gland tissue slide using IHC0220 (Tyrosine Hydroxylase IHC Kit).



Immunohistochemical analysis of paraffin embedded mouse brain tissue slide using IHC0220 (Tyrosine Hydroxylase IHC Kit).