

Human Cyclooxygenase 2 Ready-To-Use IHC Kit

Cat.No: IHC0408H
Applications: **IHC-P**
Reactivity: Human
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 (Human Cyclooxygenase 2 Recombinant Rabbit mAb)	6 ml	RTU	2-8°C
6	Secondary Antibody (Goat Anti-Rabbit IgG H&L, HRP conjugated)	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 liver)	1 slide	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 **Human Cyclooxygenase 2 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 conjugated** 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:

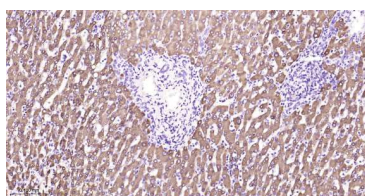
1. The positive control slide provided in the kit allows you to be sure that the experimental set-up is working properly.
2. Do not allow slides to dry at any time during this procedure.

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.

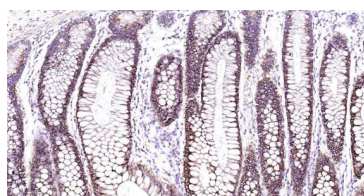
Please cite this product as "IHC0408H, Bioss Antibodies". Citation example: "Human Tissue sections using PTGS2 IHC Kit (IHC0408H, Bioss Antibodies) were stained for PTGS2 according to the manufacturer's instructions."

Introduction: COX2 converts arachidonate to prostaglandin H2 (PGH2), a committed step in prostanoid synthesis, including production of inflammatory prostaglandins. The conversion of arachidonate to prostaglandin H2 is a 2 step reaction: a cyclooxygenase (COX) reaction which converts arachidonate to prostaglandin G2 (PGG2) and a peroxidase reaction in which PGG2 is reduced to prostaglandin H2 (PGH2). It is constitutively expressed in some tissues in physiological conditions, such as the endothelium, kidney and brain, and is up-regulated under pathological conditions, such as in cancer and inflammation (in contrast to the iso-enzyme PTGS1, which is expressed ubiquitously). Up-regulation of COX2 is also associated with increased cell adhesion, phenotypic changes, resistance to apoptosis and tumor angiogenesis. In cancer cells, COX2 is a key step in the production of prostaglandin E2 (PGE2), which plays important roles in modulating motility, proliferation and resistance to apoptosis. COX2 is naturally inhibited by calcitriol (the active form of Vitamin D). Glucocorticoids chronically trans-repress PTGS2 gene activity in vivo in part by interfering with transcription initiation and elongation. COX2 is a target of NSAID such as aspirin, which can reduce pain and swelling from inflammation driven by COX2.

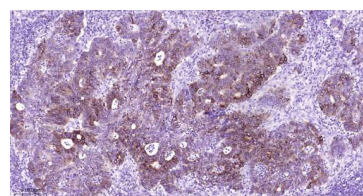
Validation Data



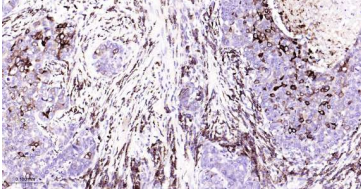
Immunohistochemical analysis of paraffin embedded human liver tissue slide using IHC0408H (Human Cyclooxygenase 2 IHC Kit).



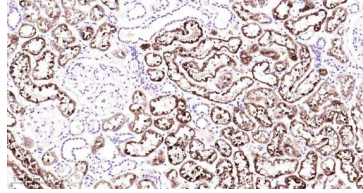
Immunohistochemical analysis of paraffin embedded human colon tissue slide using IHC0408H (Human Cyclooxygenase 2 IHC Kit).



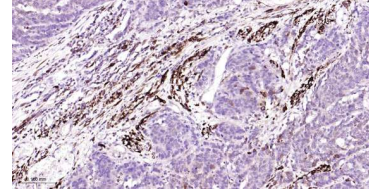
Immunohistochemical analysis of paraffin embedded human colon cancer tissue slide using IHC0408H (Human Cyclooxygenase 2 IHC Kit).



Immunohistochemical analysis of paraffin embedded human breast cancer tissue slide using IHC0408H (Human Cyclooxygenase 2 IHC Kit).



Immunohistochemical analysis of paraffin embedded human kidney tissue slide using IHC0408H (Human Cyclooxygenase 2 IHC Kit).



Immunohistochemical analysis of paraffin embedded human esophageal cancer tissue slide using IHC0408H (Human Cyclooxygenase 2 IHC Kit).