

# **Anti-Collagen Immunohistochemistry (IHC) Protocol**

## I. Reagents and Equipment Required

#### Reagent/Equipment

1X TBS with Tween (10X TBST - #MB-013)

Xylene (PolyMount Mounting Media MaxTag™ Histo for IHC - #KHH001)

80%, 95%, and 100% Ethanol

UltraPure Sterile Water (#MB-009-1000)

**Primary Antibody** 

0.01M Sodium Citrate Buffer, pH6.0

Universal Protein Block (e.g., Normal Goat Serum (NGS) (#B304) if secondary antibody is goat host)

**Biotinylated Secondary Antibody** 

Alkaline Phosphatase Chromogen Substrate

### II. Tissue Preparation and Sectioning

- 1. Formalin fixation and embedding in paraffin wax.
- 2. Make 4  $\mu m$  sections and place on pre-cleaned and charged microscope slides.
- 3. Heat in a tissue-drying oven for 45 minutes at 60°C.

#### III. Procedure for Paraffin Sections

- 1. Deparaffinize slides in xylene 3 times for 5 minutes each at room temperature.
- 2. Hydrate slides with 100% ethanol 3 times for 3 minutes each at room temperature.
- 3. Hydrate slides with 95% ethanol 2 times for 3 minutes each at room temperature.
- 4. Hydrate slides with 80% ethanol 1 time for 3 minutes at room temperature.
- 5. Rinse in UltraPure sterile water for 5 minutes at room temperature.

## IV. Antigen Retrieval

- 1. Steam slides in 0.01M sodium citrate buffer, pH 6.0 at 99–100°C for 20 minutes.
- 2. Remove from heat and let stand at room temperature in buffer for 20 minutes.
- 3. Rinse in 1X TBS with Tween (TBST) for 1 minute at room temperature.

## V. Immunostaining

- 1. Do not allow tissues to dry at any time during the staining procedure.
- 2. Apply a universal protein block for 20 minutes at room temperature.
- 3. Drain protein block from slides, apply diluted primary antibody for 45 minutes at room temperature.
- 4. Rinse slides in 1X TBST for 1 minute at room temperature.
- 5. Apply biotinylation secondary antibody (specific to the host of primary antibody) for 30 minutes at room temperature.
- 6. Rinse slides in 1X TBST for 1 minute at room temperature.
- 7. Apply alkaline phosphatase chromogen substrate for 30 minutes at room temperature.
- 8. Rinse in UltraPure sterile water for 1 minute at room temperature.

#### VI. Dehydrate

- 1. This method should only be used if the chromogen substrate is alcohol insoluble.
- 2. Wash slides with 80% ethanol 2 times for 1 minute each at room temperature.
- 3. Wash slides with 95% ethanol 2 times for 1 minute each at room temperature.
- 4. Wash slides with 100% ethanol 3 times for 1 minute each at room temperature.
- 5. Wash slides with xylene 3 times for 1 minute each at room temperature.
- 6. Apply coverslip.

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