**Mycobacterium tuberculosis**  
*Clone: Polyclonal  
Rabbit Polyclonal*

**Intended Use**

For Analyte Specific Regent.

This antibody is intended for use in immunohistochemical applications on formalin-fixed paraffin-embedded tissues (FFPE), frozen tissue sections and cell preparations. Interpretation of results should be performed by a qualified medical professional.

**Immunogen**

Purified PPD.

**Summary and Explanation**

Mycobacterium tuberculosis is a pathogenic bacterial species of the Mycobacteriaceae family and the causative agent of most cases of tuberculosis. M. tuberculosis has an unusual, waxy coating on its cell surface (primarily due to the presence of mycolic acid), which makes the cells impervious to Gram staining; M. tuberculosis can appear Gram negative and Gram positive in clinical settings. The Ziehl-Neelsen stain, or acid-fast stain, is used instead. M. tuberculosis is highly aerobic and requires high levels of oxygen. Humans are the only known reservoirs of M. tuberculosis. When in the lungs, M. tuberculosis is taken up by alveolar macrophages, but they are unable to digest and eradicate the bacterium. Its cell wall prevents the fusion of the phagosome with lysosome, which contains a host of antimycobacterial factors. Antibiotic resistant strains of mycobacterium tuberculosis have developed resistance to more than one TB drug, due to mutations in their genes.

M. tuberculosis is characterized by caseating granulomas containing Langhans giant cells, which have a “horseshoe” pattern of nuclei. Cells are often seen wrapped together, due to the presence of fatty acids in the cell wall that stick together. This appearance is referred to as chording, like strands of chord that make up a rope. The clinical and histological criteria used to diagnose lymphadenitis caused by Mycobacterium tuberculosis complex organisms have poor specificity. Acid-fast staining and culture have low sensitivity and specificity. The diagnosis of tuberculosis by immunohistochemistry can be used to detect the mycobacterial antigen on formalin-fixed tissue biopsies and it is considered fast, sensitive, and a highly specific method for establishing the etiological diagnosis of tuberculosis in histologic specimens.

**Presentation**

Mycobacterium tuberculosis is a purified immunoglobulin fraction of rabbit antiserum that is filter sterilized and diluted in buffer pH 7.5, containing BSA and sodium azide as a preservative.

**Precautions**

1. For professional users only. Ensure results are interpreted by a medical professional.
2. This product contains sodium azide (NaN₃), a toxic chemical which may react with plumbing to form highly explosive build-ups of metal azides. Upon disposal, flush with large volumes of water to prevent sodium azide build-up.
3. Ensure proper handling procedures are used with reagent. Always wear proper laboratory equipment such as laboratory coat and gloves when handling reagents.
4. Unused solution should be disposed of according to local and federal regulations.
5. Do not ingest reagent. If reagent ingested, contact a poison control center immediately.

**Storage**

Store at 2-8 °C. Do not use after expiration date listed on package label. Temperature fluctuations should be avoided. Store appropriately when not in use, and avoid prolonged exposure to room temperature conditions.

**Specimen Preparation**

Paraffin sections: The antibody can be used on formalin-fixed paraffin-embedded (FFPE) tissue sections. Ensure tissue undergoes appropriate fixation to ensure best results. Pre-treatment of tissues with heat-induced epitope retrieval (HIER) is recommended using Bio SB ImmunoDNA Retriever with Citrate (BSB 0020-BSB 0023), ImmunoDNA Retriever with EDTA (BSB 0030-BSB 0033) or ImmunoDNA Digestor (BSB 0108-0112). See reverse side for complete protocol. Tissue should remain hydrated via use of Bio SB Immuno/DNA Washer solutions (BSB 0029 & BSB 0042).

Frozen sections and cell preparations: The antibody can be used for labeling acetone-fixed frozen sections and acetone-fixed cell preparations.
Product Limitations

Due to inherent variability present in immunohistochemical procedures (including fixation time of tissues, dilution factor of antibody, retrieval method utilized and incubation time), optimal performance should be established through the use of positive and negative controls. Results should be interpreted by a medical professional.

References