

**Antibody to Adenylate Cyclase Toxin (9D4)**
MOUSE MONOCLONAL

Catalog Number: AB-V53
Quantity: 100 micrograms
Format: PBS (0.14 M Sodium Chloride; 0.003 M Potassium Chloride; 0.002 M Potassium Phosphate; 0.01 M Sodium Phosphate; pH 7.4), no preservative.
Host: Mouse
Isotype: IgG2a
Clone: 9D4
Immunogen: Bordetella pertussis adenylate cyclase toxin

Background: Adenylate cyclase toxin (ACT or CyaA) is a key virulence factor produced by Bordetella pertussis, the causative agent of whooping cough. Once inside eukaryotic cells, the toxin catalyzes the conversion of ATP to cyclic AMP (cAMP), disrupting host immune function and inducing macrophage apoptosis. The ACT protein consists of distinct structural regions, including an N-terminal catalytic domain (amino acids 1–400), a hydrophobic segment (amino acids 500–700), a glycine/aspartate-rich repeat region (amino acids 1000–1600), and a C-terminal domain (amino acids 1600–1706).

Specificity & Preparation: This IgG2a mouse antibody is generated against Bordetella pertussis adenylate cyclase toxin and recognizes an epitope in the glycine and aspartate-rich nonapeptide repeat region (amino acids 1156–1489) of Bordetella pertussis adenylate cyclase and other RTX family bacteria toxins.

Usage: Applications include western blot and immunoprecipitation. Working dilutions must be determined by end user.

Storage: Store antibody at -20°C for one year. Avoid repeated freezing and thawing. Gently spin down material 5–10 seconds in a microfuge before use.

**Selected References:**

1. Lee SJ, Gray MC, Guo L, Sebo P, Hewlett EL (1999) Epitope mapping of monoclonal antibodies against Bordetella pertussis adenylate cyclase toxin. Infect Immun 67(5):2090–2095. doi: 10.1128/IAI.67.5.2090-2095.1999 PMID: 10225859

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