C. botulinum BoNT-B Light Chain Antibody

Antigen Affinity-purified Polyclonal Sheep IgG
Catalog Number: AF5420

DESCRIPTION

Species Reactivity	*C. botulinum*
Specificity	Detects *C. botulinum* BoNT-B Light Chain in direct ELISAs and Western blots. In direct ELISAs and Western blots, less than 1% cross-reactivity with recombinant Light Chains of BoNT-A, -E, or recombinant Heavy Chains of BoNT-C, or -D is observed.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	*E. coli*-derived recombinant Clostridium BoNT-B Light Chain Pro2-His428 Accession # P10844
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	0.1 µg/mL	Recombinant Botulinum Neurotoxin Type B Light Chain (Catalog # 5420-ZN)
Immunoprecipitation	25 µg/mL	Cell lysates spiked with Recombinant Botulinum Neurotoxin Type B Light Chain (Catalog # 5420-ZN), see our available Western blot detection antibodies

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Botulinum Neurotoxin Type B is one of the seven serotypes of Botulinum Neurotoxins (BoNTs) produced by various strains of *Clostridium botulinum* (1, 2). BoNTs are synthesized as inactive single chain protein precursors and activated by proteolytic cleavage to generate disulfide-linked two-chain proteins. The 50 kDa light chain contains the catalytic domain, whereas the 100 kDa heavy chain contains an internal translocation domain and a receptor binding domain (3). BoNTs are the most potent protein toxins for humans. As zinc proteases, they cleave SNARE proteins to elicit flaccid paralysis in botulism by blocking acetylcholine release at the neuromuscular junction (2-4). *E. coli* expressed recombinant light chains are active proteases. In the absence of the heavy chains, however, they lack toxicity because they cannot enter into host cells.

References:

1. Campbell K.D. *et al.* (1993) J. Clin. Microbiol. **31**:2255.
2. Montecucco, C. and Giampietro, S. (1993) Trends Biochem. Sci. **18**:324.
3. Turton, K. *et al.* (2002) Trends Biochem. Sci. **27**:552.
4. Schiavo, G. *et al.* (2000) Physiol. Rev. **80**:717.

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Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449