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DM1233 Monoclonal Antibody to Clostridium botulinum Toxin B - Purified

Alternate names:	BoNT/B, Bontoxilysin B, Bot B, Botulinum Neurotoxin type B
Quantity:	0.1 mg
Concentration:	2.0 mg/ml
Background:	*Botulinum neurotoxin type B (BoNT/B)* is produced by Clostridium botulinum, a genetically diverse class of anaerobic, spore-forming, gram-positive bacilli. Seven different botulinum toxin groups have been identified serologically and are called botulinum toxin type A,B,C,D,E,F, and G. BoNT/B is a two-chain polypeptide with a 100-kDa heavy chain, which is responsible for neurospecific binding joined by a disulphide bond to a 50-kDa light chain, a zinc-endopeptidase which blocks neurotransmitter release. BoNT/B is one of the most poisonous naturally occurring substances. It inhibits acetylcholine release from neuromuscular junctions while it is used as an important therapeutic mainstay in the treatment of spasticity disorders and as a cosmetic treatment.
Host / Isotype:	Mouse / IgG1
Recommended Isotype Controls:	AM03095PU-N
Clone:	GR3G7
Immunogen:	Genetic immunisation with cDNA encoding BoNT/B. **Remarks: Selection:** Based on recognition of the complete **native protein** expressed on transfected mammalian cells
Format:	**State:** Liquid purified Ig fraction **Purification:** Affinity Chromatography on Protein G **Buffer System:** Phosphate buffered saline, pH 7.2
Applications:	**Flow cytometry:** 1.2 µg/10^6 cells. **Cell based ELISA** with intakt, transiently transfected cells: 1/200-1/400. Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.
Specificity:	Recognizes Botulinum Neurotoxin type B (BoNT/B).
Add. Information:	**SDS-PAGE analysis of GR-3G7:** The antibody was purified by protein G affinity chromatography from cell culture supernatants and verified by SDS-Page (Figure.3).
Storage:	Store undiluted at 2-8°C for one month or (in aliquots) at -20°C for longer. Avoid repeated freezing and thawing. Shelf life: one year from despatch.
General Readings:	1. DasGupta BR. Structure and biological activity of botulinum neurotoxin. J Physiol (Paris). 1990;84(3):220-8. PubMed PMID: 2074545. 2. Schiavo G, Benfenati F, Poulain B, Rossetto O, Polverino de Laureto P, DasGupta BR, et al. Tetanus and botulinum-B neurotoxins block neurotransmitter release by proteolytic cleavage of synaptobrevin. Nature. 1992 Oct 29;359(6398):832-5. PubMed

PMID: 1331807.
3. Tonello F, Morante S, Rossetto O, Schiavo G, Montecucco C. Tetanus and botulism neurotoxins: a novel group of zinc-endopeptidases. Adv Exp Med Biol. 1996;389:251-60. PubMed PMID: 8861019.
4. Papapetropoulos S and Singer C (2007). Botulinum toxin in movement disorders. Semin Neurol 27(2):183-94.

Pictures:

Figure 3. SDS-PAGE analysis of purified GR-3G7 monoclonal antibody. Lane 1: Molecular Weight marker Lane 2: 2 µg of purified GR-3G7 antibody. Proteins were separated by SDS-PAGE and stained withRAPID StainTM Reagent.

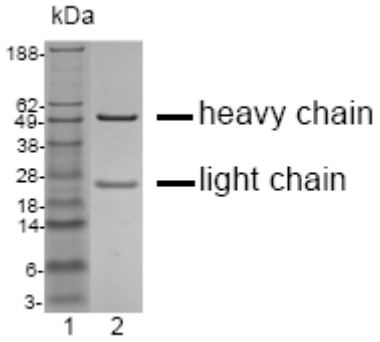

Figure.2: Antibody cross-reactivity with members of the Botulinum toxin family: BOSC23 cells were transiently transfected withexpression vectors containing the cDNA of the lightchain of botulinum toxin A-F. Expression of theconstructs was tested with an anti-myc antibody (Green curves). An irrelevant monoclonal antibody served as anegative control (Black curves). For specificity testing, protein G-purified GR-3G7 was tested on all botulinumtoxin transfectants. A positive signal was obtained onlywith BoNT/B transfected cells (Red curves).

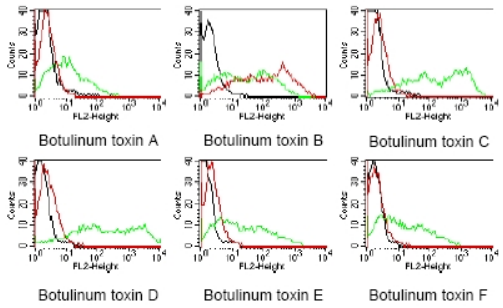

Figure.1: FACS analysis of BOSC23 cells using GR-3G7 (Cat.#DM1233). BOSC23 cells were transiently transfected with anexpression vector encoding either CGA (Red curve) or anirrelevant protein (Control transfectant: black curve). Binding of GR-3G7 was detected with a PE-conjugated secondary antibody. A positive signal was obtained only with BoNT/B trans-fected cells.