Advanced Targeting Systems

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CARLSBAD, CA 92008 USA
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Antibody to Cholera Toxin subunit A (CTA)

RABBIT POLYCLONAL

Catalog Number: AB-43
Quantity: 100 microliters
Format: Antisera
Host: Rabbit
Isotype: IgG
Immunogen: Cholera toxin alpha subunit - recombinant

Background: Cholera Toxin (CT) is produced by a Gram negative bacteria, *Vibrio cholera*, and is a member of the AB toxin family. The holotoxin consists of a single A subunit (CTA) that has a molecular weight of 27 kDA and five surrounding B subunits (CTB). After the cell internalizes CT, CTA activates the cAMP pathway by ribosylating adenylate cyclase. The effect of CTA on adenylate cyclase provides a useful tool for studying signal transduction mechanisms. This antibody is used to bind to CTA.

Specificity & Preparation: This antibody recognizes the catalytic A subunit of cholera toxin (CTA). Recombinant CTA was used as the immunogen. It is routinely tested by ELISA.

Usage: Applications include ELISA and immunoblotting (ATS in-house; 1:1,000-1:5,000).

Storage: Store the antibody at 4°C for short-term only (less than 24 hours) or -20°C in undiluted aliquots for up to one year. Avoid repeated freezing and thawing. Precautions should be taken to avoid rapid thawing cycles by adding (40-50%) glycerol. Gently spin down material 5-10 seconds in a microfuge before use.

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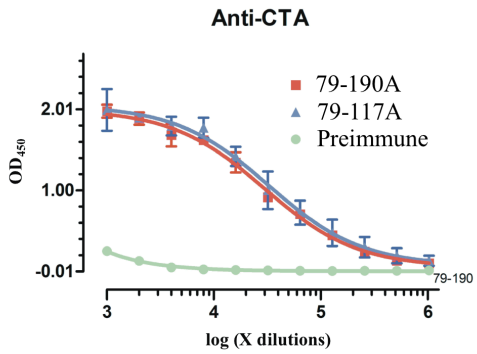
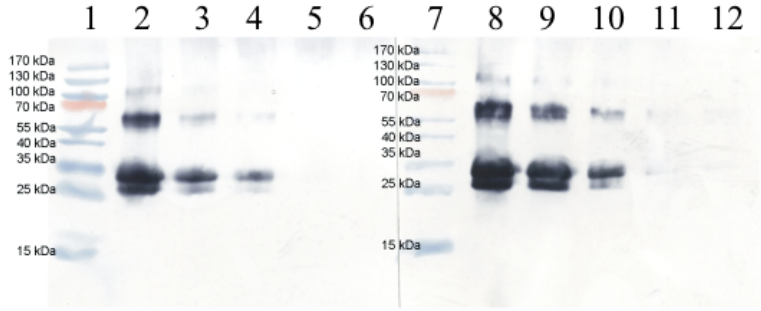
Selected References:

1. Taylor M, Banerjee T, Navarro-Garcia F, Huerta J, Massey S, Burlingame M, Pande AH, Tatulian SA, Teter K. (2011) A therapeutic chemical chaperone inhibits cholera intoxication and unfolding/translocation of the cholera toxin A1 subunit. *PLoS One* 6(4):e18825.
2. Dixit G, Mikoryak C, Hayslett T, Bhat A, Draper RK. (2008) Cholera toxin up-regulates endoplasmic reticulum proteins that correlate with sensitivity to the toxin. *Exp Biol Med* 233 (2):163-175.

To view protocol(s) for this and other products please visit: www.ATSbio.com/library/protocols



This indirect ELISA was preformed to detect the presence of anti-CTA in sera. A 96-well plate was coated with CTA. Anti-CTA (lots 79-190A and 79-117A) were tested in triplicate. The pre-immune serum was tested in duplicate. The sera starting dilution were 1:1000, and 1:2 serially diluted across the plate. After developing via HRP-labeled secondary antibody, the plate was read at 450nM and data acquired using Softmax software.



Lane 1 and 7 - Pager Ruler (5 μl)
Lane 2 and 8 - 200 ng CTA
Lane 3 and 9 - 100 ng CTA
Lane 4 and 10 - 50 ng CTA
Lane 5 and 11 - 20 ng CTA
Lane 6 and 12 - 10 ng CTA

CTA (200,100, 50,20, and 10 ng) was run on a 16% Tricine gel and transferred to PVDF membrane. The blot was blocked with 4% NFM / TBS, then incubated overnight with 1:1000 (lanes 1-6) or 1:5000 (lanes 7-12) dilution of anti-CTA antibody. A 1:1000 dilution of Goat anti-rabbit (HRP) was added to the blot. The blot was washed and developed with 4-chloro-1-naphthol and hydrogen peroxide.