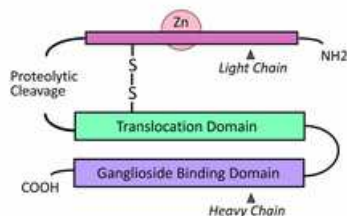


Product Specification Sheet

**Tetanus Toxoid Light Chain Antibodies and controls**

- Cat#** TTOX16-PC      Mouse Anti-C. tetani toxin light chain IgG **positive control** serum      **Size:**  1 ml  
 **Cat#** TTOX16-NC      Mouse Anti-C. tetani toxin light chain IgG **negative control** serum      **Size:**  1 ml

Tetanus, also known as lockjaw, is a disease caused by the bacteria *Clostridium tetani* which enters the body through open wounds and releases a poison called tetanospasmin. This is a potentially deadly disease because the poison attacks the nervous system blocking nerve signals from the spinal cord to and from the muscles. However this disease is preventable through injecting multiples doses of vaccines and administering the recommended booster shot every ten years. Tetanus vaccine is a vaccine composed of inactivated **tetanus toxin**. This vaccine is immunogenic not pathogenic and is used to prevent an individual from contracting tetanus.



Tetanus toxin is an extremely potent neurotoxin produced by the vegetative cell of *Clostridium tetani* in anaerobic conditions, causing tetanus. It has no known function for clostridia in the soil environment where they are normally

encountered. It is also called spasmogenic toxin, tetanospasmin or abbreviated to **TeTx** or **TeNT**. The tetanus toxin protein has a molecular weight of 150kDa. It is translated from the TetX gene as one protein which is subsequently cleaved into two parts: a 100kDa H-chain or heavy chain or B-chain and a 50kDa amino terminal light or A-chain (C-fragment). The light chain contains the enzymatic portion of the toxin and is responsible for its toxic effects. The light chain activity is abolished by a mutation at His233 to either Cys or Val or Glu234 to Gln. H-chain further cleavage into Hn (amino terminal) and Hc (carboxy terminal) fragments. The chains are connected by a disulfide bond. The B-chain binds to disialogangliosides (GD2 and GD1b) on the neuronal membrane and contains a translocation domain which aids the movement of the protein across that membrane and into the neuron. The A-chain, a zinc endopeptidase, attacks the vesicle-associated membrane protein (VAMP).

**Tetanus toxin Hc-fragment** has been tested as a subunit vaccine candidate and shown to elicit protective immunity. Similarly, **Tetanus light chain** has been shown to elicit protective immunity and the individuals vaccinated with the whole toxoid contain light chain antibodies. **Toxoid** refers to the inactivated version of the active toxin. It is typically produced by formaldehyde inactivation of the active protein.

**Source of Antigen and Antibodies**

<b>Antigen</b>	Recombinant purified tetanus toxin light chain fragment
<b>Ab Host/type</b>	Mouse antiserum after vaccination with light chain #TTOX16-PC
<b>2-Ab</b>	<b>Goat Anti-mouse IgG-HRP conjugate Cat # 40320 (AP, biotin, FITC conjugates also available)</b>
<b>-ve</b>	Cat # 20008-1, Mouse (non-immune) Serum IgG, purified, suitable for ELISA, Western, IHC as -ve control #TTOX16-NC

**Form & Storage**

**Diluted antiserum**

- Solution     Lyophilized powder  
 Buffer: PBS pH 7.4 and 0.05% azide  
**Reconstitute powder** in 1 ml water

**Stability:** 6-12 months at -20oC or below.

**Recommended Usage**

Positive and negative controls have been tested by antigen using the whole toxin and toxoid coated plates (Test undiluted or 1:2-1:10 yield an A450 ~1.00). The positive control (#TTOX16-PC) reacts with the whole toxoid and the light chain by ELISA or western (~52 kda in reducing conditions). No cross-reactivity with recombinant TeNT Heavy Chain is observed. The controls Antibodies can be used for ELISA or Western to substantiate the tetanus light chain vaccines.

**General References:** Farrar JJ (2000) J. Neurol. Neurosurg. Psych. 69, 292-301; Eisel U (1986) EMBO J. 5, 2495-2502; Schiavo G (1992) Nature 359, 832-835; Lin CS (1985) Infect. Immunity 49, 111-115; Figueiredo D (1995) Infect. Immunity 63, 3218-3221.

This product is for in vitro research use only.

**Related material available from ADI**

Catalog#	ProdDescription
930-100-TTH	Human Anti-Tetanus Toxin/Toxoid IgG ELISA kit, 96
930-110-TTM	Mouse Anti-Tetanus Toxin/Toxoid Ig's (G+A+M) ELISA kit, 2x96 tests, Quantitative
930-120-TMA	Mouse Anti-Tetanus Toxin/Toxoid IgA ELISA kit, 2x96
930-120-TTR	cc# change to 930-200-TTR; Rabbit Anti-Tetanus Toxin/Toxoid Ig's (G+A+M) ELISA kit
930-130-TMG	Mouse Anti-Tetanus Toxin/Toxoid IgG ELISA kit, 2x96
930-140-TMM	Mouse Anti-Tetanus Toxin/Toxoid IgM ELISA kit, 2x96
930-200-TTR	Rabbit Anti-Tetanus Toxin/Toxoid Ig's (G+A+M) ELISA kit, 2x96 tests, Quantitative
930-210-TRG	Rabbit Anti-Tetanus Toxin/Toxoid IgG ELISA kit, 2x96
930-220-TRM	Rabbit Anti-Tetanus Toxin/Toxoid IgM ELISA kit, 2x96 tests, Quantitative
930-310-TGG	G. pig Anti-Tetanus Toxin/Toxoid IgG ELISA kit, 2x96
930-320-TGM	G. pig Anti-Tetanus Toxin/Toxoid IgM ELISA kit, 2x96 tests, Quantitative
930-410-TKG	Monkey Anti-Tetanus Toxin/Toxoid IgG ELISA kit,

TTOX12-A Anti-C. tetani purified toxin IgG (tetanus shock toxin)  
 TTOX13-A Anti-C. tetani purified toxin IgG (tetanus shock toxin)  
 TTOX14-M Monoclonal Anti-C. tetani purified toxin IgG (tetanus shock toxin)  
 TTOX15-S Anti-C. tetani purified toxin IgG (tetanus shock toxin)

VAC-TTX-300      VacciGel Direct ELISA for the measurement of Tetanus Toxoid in Vaccines formulated in Alum, 96 tests

VAC-TTX-310      Tetanus Toxoid/Toxin (TTX) ELISA for the measurement TTX in biological buffer

TTOX16-PC      130211A

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