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Antibody Datasheet

Product Name: Mouse anti Tetanus toxin

Clone number: TetE3

Isotype: Mouse IgG_1

Product code: MAB12239-100

Batch Number:

Amount: 0.1mg

Concentration: 1mg/ml

Buffer: Phosphate Buffered Saline pH7.4

Preservative: 0.09% Sodium Azide (NaN_3)

Purification: The antibody was purified by affinity chromatography on protein A sepharose.

Specificity: This antibody is specific for *Clostridium tetani* tetanus toxin.

Applications: ELISA, WB. The antibody is suitable for toxin neutralisation in vivo assays.

Secondary reagents: Goat anti mouse IgG:HRP (PAB21441HRP)

Antigen background: Tetanus is a bacterial disease caused by tetanus toxin, also known as tetanospasmin. Tetanus toxin is an extremely potent neurotoxin that is synthesized by *Clostridium tetani*, an anaerobic, gram-positive, spore-forming bacterium of the genus *Clostridium.* The spores of *C.tetani* are widely found in soil and the intestinal tracts of vertebrate, where they are generally benign. Infection can occur when *C.tetani* spores enter the body via an open wound, proliferate under anaerobic conditions and produce tetanus toxin.

In humans, tetanus toxin causes severe, uncontrolled spasms and rigidity of involuntary muscles. Tetanus is categorised as generalised, neonatal, local or cephalic, depending on the area of the body where muscular spasms occur. Generalised tetanus is the most commonly occurring form which affects the jaw, facial muscles, the spine and abdomen. In some cases, the airways of patients may be affected resulting in death. Neonatal tetanus, is of the generalised form, is often fatal and a problem in developing countries where vaccination isn't widespread and infection via the umbilical stump occurs. Tetanus in all ages can be prevented by immunization. Licenced effective vaccines have been available for many years, which contain tetanus toxoid, a non-toxic form of tetanus toxin (WHO).

The tetanus toxin is closely related to botulinum neurotoxins. Tetanus toxin is produced in the cytosol of *C.tetani*. The toxin is a zinc-dependent metalloprotease composed of a heavy and light chain linked by a disulphide bond. Tetanus neurotoxin consists of three domains each having different functions which are: - receptor binding, membrane translocation and endopeptidase activity. Tetanus toxin binds to the presynaptic membrane of the neuromuscular junction, is internalized and moves by retrograde transport via the axon, to the spinal cord. The continuous muscle contractions induced by the toxin is due to the blocking of neurotransmitter release from spinal inhibitory interneurons (Pellizzari, R).

References:

World health organization; factsheets, Tetanus

Pellizzari R, Rossetto O, Schiavo G, Montecucco C. 1999. Tetanus and botulinum neurotoxins: mechanism of action and therapeutic uses. Philos Trans R Soc Lond B Biol Sci.28;354(1381):259-68. Review.

Storage:

Store at +4^{o}C for up to three months, or at -20^{o}C for longer periods
The antibody is shipped at ambient temperature.
Avoid repeated freeze/thaw cycles.