



### TmpA partial (23-41aa and 288-325aa)

Treponema Pallidum Membrane Protein A  
*Treponema pallidum*, recombinant, *E. coli*

Cat. No.	Amount
PR-1269	100 µg

#### For general laboratory use.

**Shipping:** shipped on gel packs

**Storage Conditions:** store at -20 °C

**Additional Storage Conditions:** avoid freeze/thaw cycles

**Shelf Life:** 12 months

**Molecular Weight:** 68 kDa

**Purity:** > 90 % (SDS-PAGE)

**Form:** liquid (Supplied in 10 mM Tris-HCl pH 8.0, 20 mM DDT, 1 mM EDTA and 8 M urea)

#### Applications:

Treponema Pallidum protein binds to murine anti-TmpA protein monoclonal antibodies and Treponema pallidum converted human serum polyclonal antibodies in ELISA and Western Elisa. For Dot Blots and Lateral Flow immunochromatographic diagnostic tests.

#### Description:

The *E. coli* derived 68kDa recombinant protein contains the Trp. Pallidum TmpA immunodominant regions, 23-41 amino acids and 288-325 amino acids. Treponema pallidum is a gram-negative spirochaete bacterium and is considered to be metabolically crippled. There are at least four known subspecies: *T. pallidum pallidum*, *T. pallidum pertenuis*, *T. pallidum carateum* and *T. pallidum endemicum*. The helical structure of *T. pallidum pallidum* allows it to move in a corkscrew motion through viscous mediums such as mucus. Treponema pallidum sub sp. pallidum has one of the smallest bacterial genomes at 1.14 million base pairs (Mb) and has limited metabolic capabilities, reflecting its adaptation through genome reduction to the rich environment of mammalian tissue.

**Background:** Syphilis is a chronic, complex sexually transmitted disease of humans caused by the spirochetal bacterium *Treponema pallidum*. Humans are the only known reservoir for *T. pallidum*. One of the major immunoreactive proteins of *T. pallidum* is the lipoprotein TmpA. This protein migrates as a 44-kDa protein in SDS-PAGE gels. *In vivo* it is produced as a 46-kDa precursor which is cleaved during maturation and addition of lipid.

**Specificity:** Immunoreactive with sera of *T. pallidum* infected individuals.

#### Selected References:

Brito Moreno *et al.* (2003) Monoclonal antibodies to the recombinant protein TmpA of the Treponema pallidum. *Hybrid. Hybridomics*. **22**:393.

Antoni *et al.* (1996) Detection of antigenic determinants in the Treponema pallidum membrane protein TmpA using overlapping synthetic peptides. *J. Immunol. Methods*. **189**:137.

Yelton *et al.* (1991) Treponema phagedenis encodes and expresses homologs of the Treponema pallidum TmpA and TmpB proteins. *Infect. Immun.* **59**:3685.

Schouls *et al.* (1989) Overproduction and purification of Treponema pallidum recombinant-DNA-derived proteins TmpA and TmpB and their potential use in serodiagnosis of syphilis. *Infect. Immun.* **57**:2612.

Ijsselmuiden *et al.* (1989) Sensitivity and specificity of an enzymelinked immunosorbent assay using the recombinant DNA-derived Treponema pallidum protein TmpA for serodiagnosis of syphilis and the potential use of TmpA for assessing the effect of antibiotic therapy. *J. Clin. Microbiol.* **27**:152.