

TRP p47

Treponema Pallidum Major Membrane Immunogen

Treponema pallidum, recombinant, *E. coli*

Cat. No.	Amount
PR-1241	100 µg

For *in vitro* use only
Quality guaranteed for 12 months
Store at -20°C

Avoid freeze / thaw cycles

Form

Liquid. Supplied in 10 mM Tris-HCl pH 8.0, 1 mM EDTA, 1 mM DTT and 8 M urea.

Application

Antigen in ELISA and Western blots, excellent antigen for detection of *T. pallidum* with minimal specificity problems.

Specificity

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

Purity

>90% by SDS-PAGE

Description

The protein contains the *Treponema pallidum* p47 immunodominant regions.

The protein is purified by proprietary chromatographic technique.

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*.

TRP-p47 is the major 47-kDa membrane lipoprotein and dominant immunogen of *T. pallidum*, and it is a penicillin-binding protein (PBP).

TRP-p47 is capable of stimulating HDMEC (human dermal microvascular endothelial cells) to increase the expression of ICAM-1, VCAM-1 and E-selectin and thereby, promote the adherence of T-lymphocytes.

The whole process may play an important role in the immunopathogenesis of syphilis and it is likely that TNF- α and IL-1 α are involved.

Selected References:

- Kouznetsov *et al.* (2005) Detection of the 47-kilodalton membrane immunogen gene of *Treponema pallidum* in various tissue sources of patients with syphilis. *Diagn. Microbiol. Infect. Dis.* **51**:143.
- Deka *et al.* (2002) Crystal structure of the 47-kDa lipoprotein of *Treponema pallidum* reveals a novel penicillin-binding protein. *J. Biol. Chem.* **277**:41857.
- Lee *et al.* (2000) Virulent *Treponema pallidum* 47 kDa antigen regulates the expression of cell adhesion molecules and binding of T-lymphocytes to cultured human dermal microvascular endothelial cells. *Yonsei Med. J.* **41**:623.
- Baughn *et al.* (1996) Molecular mimicry between an immunodominant amino acid motif on the 47-kDa lipoprotein of *Treponema pallidum* (Tpp47) and multiple repeats of analogous sequences in fibronectin. *J. Immunol.* **157**:720.
- Weigel *et al.* (1994) The 47-kDa major lipoprotein immunogen of *Treponema pallidum* is a penicillin-binding protein with carboxypeptidase activity. *Proc. Natl. Acad. Sci. USA.* **91**:11611.
- Weigel *et al.* (1992) Analysis of the N-terminal region of the 47-kilodalton integral membrane lipoprotein of *Treponema pallidum*. *Infect. Immun.* **60**:1568.