

Product Data Sheet

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| <input type="checkbox"/> Cat# PPD11-A | Anti-purified protein derivative (PPD/M. tuberculosis) IgG | Size: 100 ul |
| <input type="checkbox"/> Cat# PPD11-BTN | Anti-purified protein derivative (PPD/M. tuberculosis) IgG-biotin conjugate | Size: 100 ul |
| <input type="checkbox"/> Cat# PPD11-FITC | Anti-purified protein derivative (PPD/M. tuberculosis) IgG-FITC conjugate | Size: 100 ul |

Tuberculosis, MTB, or TB (short for tubercle bacillus) is a common, and in many cases lethal, infectious disease caused by various strains of mycobacteria, usually *Mycobacterium tuberculosis*. The infectious agents of tuberculosis are acid-resistant rod-like bacteria of the family Mycobacteriaceae, genus *Mycobacterium*. Individuals with HIV are at risk for infection by tuberculosis due to their impaired immune system. The only currently available vaccine as of 2012 is **bacillus Calmette–Guérin (BCG)** with live attenuated bacteria which, while it is effective against disseminated disease in childhood, confers inconsistent protection against contracting pulmonary TB. A number of new TB vaccines are currently in phase I and II clinical trials. MVA85A (modified vaccinia Ankara 85A) is a subunit vaccine to BCG. This vaccine produces higher levels of long-lasting cellular immunity when used together with the old TB vaccine called BCG.

The closely related proteins of the antigen 85 complex, initially identified in *M. bovis* BCG are major secreted products of mycobacteria. Three closely related components, termed antigens **85A, 85B, and 85C**, have been demonstrated in *M. bovis* BCG and *M. tuberculosis*. Although the antigens are genetically distinct, they are highly homologous and cross-react with polyclonal and monoclonal antibodies raised against individual components. Sequence analysis revealed 85% identity between the *M. bovis* BCG 85A and 85B proteins. Many mycobacterial antigens have been identified, such as 71, 65, 38, 23, 19, 16, 14 and 12-kDa proteins. The 38-kDa protein is an immunodominant lipoprotein antigen isolated as a component of antigen 5 by affinity chromatography, and is specific only for the *M. tuberculosis* complex. It is the most extensively studied antigen. The 16-kDa antigen is an immunodominant antigen, frequently called 14 kDa, related to the family of low molecular weight heat-shock proteins. This antigen contains B-cell epitopes specific for the *M. tuberculosis* complex.

Tuberculin is an extract of *Mycobacterium tuberculosis*, *M. bovis*, or *M. avium* that is used in skin testing in animals and humans to identify a tuberculosis infection. Several types of tuberculin have been used for this, of which **purified protein derivative (PPD)** is the most important. PPD is a poorly defined, complex mixture of antigens. Tuberculin is an outer membrane protein of *Mycobacterium* species.

Source of Antibodies and Antigen

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| Antigen | Whole BCG Proteins |
| Ab Host/type | Rabbit, Polyclonal IgG, (Cat # PPD11-A) supplied in PBS/azide |
| 2-Ab | Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available). |
| -ve | Cat # 20009-1, Rabbit (non-immune) Serum IgG, purified, suitable for ELISA, Western, IHC as –ve control |

Store antibodies at -20oC in cool and dry place. Reconstitute powder in water or other buffer and store frozen at -20oC or below for long term storage.

Cat# PPD11-BTN, Biotin-conjugate

Purified antibody was coupled to Biotin using Biotinamidocaproate N-Hydroxysuccinimide Ester (BAC) at F/P ratio ~10-20:1. The antibody is supplied in PBS, pH 7.4, 0.2% BSA and 0.05% azide in either **lyophilized** (0.1 mg) or **liquid** form (0.1 mg/0.1 ml). Reconstitute powder in PBS in 0.1 ml to prepare 1 mg/ml solution. Store at -20oC in suitable aliquots. Stability is ~6-12 months. Do not freeze and thaw.

Suggested conjugate dilutions are 1:5,000-1:30,000 ELISA, 1:2K-1:10K for western.

Cat# PPD11-FITC, FITC-conjugate

Purified antibody was coupled to FITC at F/P ratio ~3:7. The antibody is supplied in PBS, pH 7.4, 0.2% BSA and 0.05% azide in either **lyophilized** (0.1 ml) or **liquid** form (0.1 mg/0.1 ml). Reconstitute powder in PBS in 0.1 ml to prepare 1 mg/ml solution. Store at -20oC in suitable aliquots. Stability is ~6-12 months. Do not freeze and thaw.

Suggested conjugate dilutions are 1:200-1:2000 for immunofluorescence.

Absorption Wavelength: 495 nm
Emission Wavelength: 528 nm

Usage

ELISA or Western and IF/IHC

Optimize concentration of the antibody for each technique.

References: Mustafa A (1999) *Inf. Imm.* 67, 5683-5689; Al_attiya R (2003) *Inf. Imm.* 71, 1953-1960; Renshaw PS (2005) *EMBO J.* 24, 2491-2498; Meher Ak (2006) *FEBS J.* 273, 1445-1462; Sorensen AL (1995) *Inf. Immun.* 63, 1710-1717; Berthet FX (1998) *Microbiol.* 144, 3195-3203; Brodin P (2006) *Inf. Immun.* 74, 88-98; Renshaw PS (2002) *JBC* 277, 21598-21603

This item is for LABORATORY RESEARCH USE ONLY.

Related Items

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| 990-100-THA | Human Anti-Mycobacterium Tuberculosis IgA ELISA |
| 990-110-THG | Human Anti-Mycobacterium Tuberculosis IgG ELISA |
| 990-120-THM | Human Anti-Mycobacterium Tuberculosis IgM ELISA |
| 990-210-TMG | Mouse Anti-Mycobacterium Tuberculosis IgG ELISA |
| 990-220-TMM | Mouse Anti-Mycobacterium Tuberculosis IgM ELISA |
| 990-230-06G | Mouse Anti-M. Tuberculosis 6kDa/ESAT-6 IgG ELISA |
| 990-235-06M | Mouse Anti-M. Tuberculosis 6kDa/ESAT-6 IgM |
| 990-240-16G | Mouse Anti-M. Tuberculosis 16kDa/Hsp90 IgG ELISA |
| 990-245-16M | Mouse Anti-M. Tuberculosis 16kDa/Hsp90 IgM ELISA |
| 990-250-38G | Mouse Anti-M. Tuberculosis 38kDa/Ag85b IgG ELISA |
| 990-255-38M | Mouse Anti-M. Tuberculosis 38kDa/Ag85b IgM ELISA |
| 990-260-38G | Human Anti-M. Tuberculosis MVA vaccine (38kDa/Ag85b) IgG ELISA kit, |
| 990-265-38M | Human Anti-M. Tuberculosis MVA vaccine (38kDa/Ag85b) IgM ELISA kit, |
| 990-310-TRG | Rabbit Anti-Mycobacterium Tuberculosis IgG ELISA |
| 990-320-TRM | Rabbit Anti-Mycobacterium Tuberculosis IgM ELISA |
| 990-400-MTG | Monkey Mycobacterium Tuberculosis IgG ELISA kit, |
| 990-410-MTM | Monkey Mycobacterium Tuberculosis IgM ELISA kit, |

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