**DESCRIPTION**

**Product Overview**

Recombinant Anti-PD-1 & Anti-TIM-3 Bispecific Antibody (Fab')2 is a chemical conjugate composed of the Fab' of the anti-PD-1 monoclonal antibody and Fab' of an antibody specific for TIM-3. A stable thioether linkage is formed between the two Fab'. The bispecific antibody is somewhat smaller than a whole IgG and therefore it can be cleared from the blood naturally at a faster rate. It was designed for the treatment of chronic immune conditions and cancers.

**Targets**

- PD-1 & TIM-3

**Type**

Fab’2

**Species Reactivity**

Human

**Target 1**

- PD-1
- Host: Mouse
- Clone: 10F.9G2

**Target 2**

- TIM-3
- Host: Rat
- Clone: 2C12

**Related Disease**

Chronic immune conditions, cancer

**Purity**

>95% judged by SDS-PAGE under reducing condition

**Storage**

The product is shipped at 4°C. Upon receipt, centrifuge the product briefly before opening the vial. It is recommended to store small aliquots at the temperature below -20°C for long-term storage and the product is stable for 3 months. The undiluted protein can be stored at 4°C for no more than 2 weeks.

**BACKGROUND**

**Target 1**

- PD-1
- Gene ID: 5133
- UniProt ID: Q15116
- Alternative Names: PDCD1; programmed cell death 1; PD1; PD-1; CD279; SLEB2; hPD-1; hPD-l; hSLE1; programmed cell death protein 1; protein PD-1; systemic lupus erythematosus susceptibility 2
- Summary: This gene encodes a cell surface membrane protein of the immunoglobulin superfamily. This protein is expressed in pro-B-cells and is thought to play a role in their differentiation. In mice, expression of this gene is induced in the thymus when anti-CD3 antibodies are injected and large numbers of thymocytes undergo apoptosis. Mice deficient for this gene bred on a BALB/c background developed dilated cardiomyopathy and died from congestive heart failure. These studies suggest that this gene product may also be important in T cell function and contribute to the prevention of autoimmune diseases.

**Target 2**

- TIM-3
- Gene ID: 84868
- UniProt ID: Q8TDQ0
**Alternative Names**
TIM3; CD366; KIM-3; TIMD3; Tim-3; TIMD-3; HAVcr-2

**Summary**
The protein encoded by this gene belongs to the immunoglobulin superfamily, and TIM family of proteins. CD4-positive T helper lymphocytes can be divided into types 1 (Th1) and 2 (Th2) on the basis of their cytokine secretion patterns. Th1 cells are involved in cell-mediated immunity to intracellular pathogens and delayed-type hypersensitivity reactions, whereas, Th2 cells are involved in the control of extracellular helminthic infections and the promotion of atopic and allergic diseases. This protein is a Th1-specific cell surface protein that regulates macrophage activation, and inhibits Th1-mediated auto- and alloimmune responses, and promotes immunological tolerance.

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