CREATIVE BIOMART®
Assay Kit

TCR Activator / PD-L1 Mammalian Expression Kit

Product Information

Cat.No.

Kit-1878

Product Overview

The binding of Programmed Cell Death Protein 1 (PD-1), a receptor expressed on activated T cells, to its ligands, PD-L1 and PD-L2, negatively regulates immune responses. The PD-1 ligands are found on most cancers, and PD-1:PD-L1/2 interaction inhibits T cell activity and allows cancer cells to escape immune surveillance. The PD-1:PD-L1/2 pathway is also involved in regulating autoimmune responses, making these proteins promising therapeutic targets for a number of cancers, as well as multiple sclerosis, arthritis, lupus, and type I diabetes.

Size

500 reactions

Description

The recombinant expression vectors are designed to express human engineered T cell receptor (TCR) activator and human PD-L1 (GenBank Accession #NM_014143) in mammalian cells. The transfected cells can be used in conjunction with PD-1/NFAT Reporter/Jurkat T cells to study the interactions of PD-1 with PD-L1 ligand in a cellular context and screen for modulators of this signaling pathway. In this assay, PD-1/NFAT Reporter/Jurkat T cells are used as effector cells; HEK293 cells overexpressing PD-L1 (or PD-L2) and an engineered T cell receptor (TCR) activator are used as target cells. When these two cells are co-cultivated, TCR complexes on effector cells are activated by TCR activator on target cells, resulting in expression of the NFAT luciferase reporter. However, PD1 and PD-L1 (or PD-L2) ligation prevents TCR activation and suppresses the NFAT-responsive luciferase activity. This inhibition can be specifically reversed by anti-PD1 or anti-PD-L1 antibodies. PD1/PD-L1 neutralizing antibodies block PD1:PD-L1 interaction and promote T cell activation, resulting in reactivation of the NFAT responsive luciferase reporter.

Applications

• Screen for activators or inhibitors of PD-1 signaling in a cellular context • Characterize the

Tel: 1-631-559-9269 1-516-512-3133
Email:info@creative-biomart.com
Fax:1-631-938-8127
45-1 Ramsey Road, Shirley, NY 11967, USA

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biological activity of PD-1 and its interactions with ligands

Storage

Stable at least 6 months from date of receipt, when stored as directed.

Kit Components

TCR activator + Human PD-L1 (Component A): Expression vectors constitutively expressing TCR activator and human PD-L1; 500 μl (100 ng DNA/μl); -20°C TCR activator (Component B): Expression vector constitutively expressing TCR activator; 500 μl (100 ng DNA/μl); -20°C

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