For Research Use Only

anti-PD-1 recombinant VHH, CoraLite® Plus 647

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Catalog Number: CL647-pd1

Basic Information

Catalog Number:
CL647-pd1

Applications:
FC

Host:
Alpaca

Conjugate:
CoraLite® Plus 647

Type :
Nanobody

Class:
Recombinant

RRID:
AB_3101931

Molecular Weight:
13.874 kDa

Description

CL647-pd1 targets PD-1 in FC applications and shows reactivity with Human samples.

Affinity

Picomolar range, below the assay limit (biolayer interferometry)

Excitation/Emission Maxima Wavelengths

654 nm / 674 nm

Background

Programmed cell death 1 (PD-1, also known as CD279) is an immunoinhibitory receptor that belongs to the CD28/CTLA-4 subfamily of the Ig superfamily. It is a 288 amino acid (aa) type I transmembrane protein composed of one Ig superfamily domain, a stalk, a transmembrane domain, and an intracellular domain containing an immunoreceptor tyrosine-based inhibitory motif (ITIM) as well as an immunoreceptor tyrosine-based switch motif (ITSM) (PMID: 18173375). PD-1 is expressed during thymic development and is induced in a variety of hematopoietic cells in the periphery by antigen receptor signaling and cytokines (PMID: 20636820). Engagement of PD-1 by its ligands PD-L1 or PD-L2 transduces a signal that inhibits T-cell proliferation, cytokine production, and cytolytic function (PMID: 19426218). It is critical for the regulation of T cell function during immunity and tolerance. Blockade of PD-1 can overcome immune resistance and also has been shown to have antitumor activity (PMID: 22658127; 23169436). It has been reported that PD-1 is heavily glycosylated and migrates with an apparent molecular mass of 47-55 kDa on SDS-PAGE, which is larger than its predicted mass of 32 kDa (PMID: 8671665; 17640856; 17003438).

Storage

Storage:
Store at -20°C

Storage Buffer:
500 mM NaCl, 10 mM HEPES pH 7.0, 5 mM EDTA, 0.09% sodium azide

For technical support and original validation data for this product please contact

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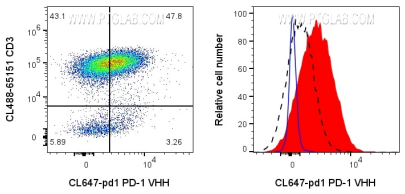
Selected Validation Data



Human PBMCs were stimulated with CD3/CD28 T Cell Activation Beads (KMS310) and after 3 days the magnetic beads were removed. Left: 1x10^6 stimulated cells were surface stained with 2ug CoraLite® Plus 647 conjugated PD-1 VHH (CL647-pd1) and CL488 CD3 (CL488-65151). Right: 1x10^6 stimulated cells were surface stained with 2ug CoraLite® Plus 647 conjugated PD-1 VHH (CL647-pd1) (red) or unstained (blue). 1X10^6 unstimulated cells were surface stained with 2ug CoraLite® Plus 647 conjugated PD-1 VHH (CL647-pd1) (black dashed). Cells were treated with FC Receptor Block prior to staining. Cells were not fixed. Lymphocytes were gated.