

For Research Use Only

anti-CD4 recombinant VHH, CoraLite® Plus 647



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Catalog Number: MG-1229CL647

Basic Information

Catalog Number:

MG-1229CL647

Applications:

FC

Host:

Alpaca

Conjugate:

CoraLite® Plus 647

Type:

Nanobody

Class:

Recombinant

RRID:

/

Molecular Weight:

14.8 kDa

Description

The small size of VHHs (~15 kDa) enables access to epitopes that may be sterically inaccessible to full size IgGs. Their reduced steric hindrance also facilitates simultaneous staining of multiple targets, making them particularly useful for applications like Nano-Flow. MG-1229CL647 is a recombinant CoraLite® Plus 647 conjugated anti CD4 Nanobody (VHH) that targets CD4 (human).

Affinity

17 nM

Excitation/Emission Maxima Wavelengths

654 nm / 674 nm

Background

CD4 is a 55-kDa transmembrane glycoprotein expressed on T helper cells, majority of thymocytes, monocytes, macrophages, and dendritic cells (PMID: 9304802; 12213222). CD4 is an accessory protein for MHC class-II antigen/T-cell receptor interaction. It plays an important role in T helper cell development and activation (PMID: 9539765; 3112582). CD4 serves as a receptor for the human immunodeficiency virus (HIV) (PMID: 9304802).

Storage

Storage:

Store at -20°C

Storage Buffer:

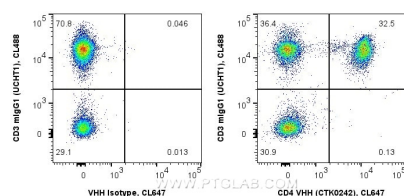
10 mM HEPES pH 7.0, 500 mM NaCl, 5 mM EDTA, 0.09% sodium azide

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

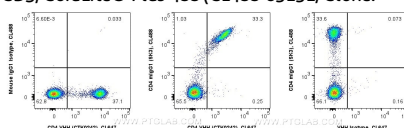
T: 1 (888) 4PTGLAB (1-888-478-4522) (toll free in USA), or E: proteintech@ptglab.com
1(312) 455-8498 (outside USA) W: www.ptglab.com

This product is exclusively available under
Proteintech Group brand and is not available
to purchase from any other manufacturer.

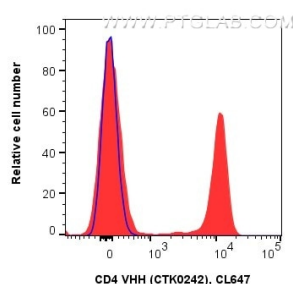
Selected Validation Data



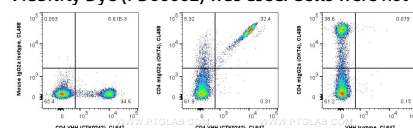
Human PBMCs co-stained with anti-CD4 recombinant VHH and anti-CD3 UCHT1 in Flow Cytometry
 1x10⁶ human PBMCs were surface co-stained in 100 µL with 0.25 µg anti-CD4 recombinant VHH, CoraLite® Plus 647 (MG-1229CL647, Clone: CTK0242), or 0.25 µg recombinant VHH Isotype Control, CoraLite® Plus 647 (Clone: CTK0201), mixed with 5 µL Anti-Human CD3, CoraLite® Plus 488 (CL488-65151, Clone:



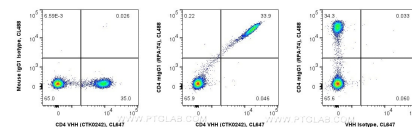
Human PBMCs competitively co-stained with anti-CD4 recombinant VHH and anti-CD4 SK3 in Flow Cytometry
 1x10⁶ human PBMCs were surface co-stained in 100 µL with 0.25 µg anti-CD4 recombinant VHH, CoraLite® Plus 647 (MG-1229CL647, Clone: CTK0242) mixed with 5 µL Anti-Human CD4, CoraLite® Plus 488 (CL488-65147, Clone: SK3) (middle). As controls 0.25 µg VHH were co-stained with 0.25 µg Mouse IgG1, κ Isotype Control, CoraLite® Plus 488 (CL488-98742-2, Clone: MOPC-21) (left), and 5 µL SK3 were co-stained with 0.25 µg recombinant VHH Isotype Control, CoraLite® Plus 647 (Clone: CTK0201, right). Fc-receptors were blocked. Viability Dye (PD00002) was used. Cells were not fixed. Viable lymphocytes were gated. Anti-Human CD4 recombinant VHH clone CTK0242 effectively co-stains the same CD4⁺ population as the conventional Anti-Human CD4 Mouse IgG1 clone SK3. Decreased signal intensity of CD4 VHH-positive stained cells co-stained with SK3 compared to CD4 VHH-positive stained cells co-stained with the mlgG1 Isotype Control indicate competition for an identical or overlapping epitope of CD4 bound by VHH and SK3.



Human PBMCs stained with anti-CD4 recombinant VHH in Flow Cytometry
 1x10⁶ human PBMCs were surface stained in 100 µL with 0.25 µg anti-CD4 recombinant VHH, CoraLite® Plus 647 (MG-1229CL647, Clone: CTK0242) (red), or 0.25 µg recombinant VHH Isotype Control, CoraLite® Plus 647 (Clone: CTK0201) (blue). Fc-receptors were blocked. Viability Dye (PD00002) was used. Cells were not



Human PBMCs competitively co-stained with anti-CD4 recombinant VHH and anti-CD4 OKT4 in Flow Cytometry
 1x10⁶ human PBMCs were surface co-stained in 100 µL with 0.25 µg anti-CD4 recombinant VHH, CoraLite® Plus 647 (MG-1229CL647, Clone: CTK0242) mixed with 5 µL Anti-Human CD4, CoraLite® Plus 488 (CL488-65603, Clone: OKT4) (middle). As controls 0.25 µg VHH were co-stained with 0.2 µg Mouse IgG2a Isotype Control, CoraLite® Plus 488 (CL488-65208, Clone: C1.18.4) (left), and 5 µL SK3 were co-stained with 0.25 µg recombinant VHH Isotype Control, CoraLite® Plus 647 (Clone: CTK0201, right). Fc-receptors were blocked. Viability Dye (PD00002) was used. Cells were not fixed. Viable lymphocytes were gated. Anti-Human CD4 recombinant VHH clone CTK0242 effectively co-stains the same CD4⁺ population as the conventional Anti-Human CD4 Mouse IgG2a clone OKT4. Unaltered signal intensity of the CD4 VHH-positive stained cells co-stained with OKT4 compared to CD4 VHH-positive stained cells co-stained with the mlgG2a Isotype Control indicate that CD4 binding of the VHH does not interfere with OKT4 and both epitopes are distant enough to not cause CL488 to CL647 FRET.



Human PBMCs competitively co-stained with anti-CD4 recombinant VHH and anti-CD4 RPA-T4 in Flow Cytometry
 1x10⁶ human PBMCs were surface co-stained in 100 µL with 0.25 µg anti-CD4 recombinant VHH, CoraLite® Plus 647 (MG-1229CL647, Clone: CTK0242) mixed with 5 µL Anti-Human CD4, CoraLite® Plus 488 (CL488-65143, Clone: RPA-T4) (middle). As controls 0.25 µg VHH were co-stained with 0.25 µg Mouse IgG1, κ Isotype Control, CoraLite® Plus 488 (CL488-98742-2, Clone: MOPC-21) (left), and 5 µL RPA-T4 were co-stained with 0.25 µg recombinant VHH Isotype Control, CoraLite® Plus 647 (Clone: CTK0201, right). Fc-receptors were blocked. Viability Dye (PD00002) was used. Cells were not fixed. Viable lymphocytes were gated. Anti-Human CD4 recombinant VHH effectively co-stains the same CD4⁺ population as the conventional Anti-Human CD4 clone RPA-T4 (mlgG1). Close proximity of different VHH and IgG epitopes on identical CD4 molecules likely causes a CL488 to CL647 FRET effect, observable by an increased signal intensity of the CD4 VHH-positive stained cells co-stained with RPA-T4 compared to the CD4 VHH-positive stained cells co-stained with the mlgG1 Isotype Control.