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Datasheet for 400-301-MR2

Recombinant scFv Anti-Human CD45 Antibody

Overview

Description:	Recombinant scFv fragment Anti-Human CD45 (Mouse) Antibody - 400-301-MR2
Item No.:	400-301-MR2
Size:	100 µg
Reactivity:	Human Leukocytes

Product Details

Background:	CD45 is encoded by the PTPRC (Protein tyrosine phosphatase receptor type C) gene. CD45, also known as the leukocyte common antigen (LCA), is a member of the protein tyrosine phosphatase (PTP) family. It is present on all human leukocytes including lymphocytes, monocytes, granulocytes, eosinophils, and thymocytes. CD45 is absent from circulating erythrocytes, platelets, or mature erythroid cells of bone marrow and non-hemopoietic tissues. This is an anti-cd45 scFv antibody fragment. This scFv fragment representing the functional antigen binding fragment of immunoglobulins is produced in bacterial expression systems. Using biochemical procedures and/or genetic modification (recombinant DNA technology), these fragments can be coupled to compounds and proteins that allow for the detection of these fragments. Examples of such compounds include fluorophores (e.g. fluorescein) and enzymes (e.g. alkaline phosphatase) generating fluorescence. The resultant compounds now have bifunctional properties in that they can bind to their target via the scFv fragment and can be detected via their fluorescence marker. In addition to labeling the scFv with fluorophore markers, the scFv antibody fragment has been coupled to magnetic microparticles allowing for the capture of the scFv target complex in a magnetic field. An scFv fragment retains the complete antigen-binding capability of the whole monoclonal antibody, thus facilitating a unique molecule with the property of being used as either a diagnostic or therapeutic reagent. In addition, the scFv with exquisite specificity and affinity towards a specific target can also be used as a delivery vehicle for radioimmunoimaging and radioimmunotherapy. In addition, the small antigen-binding scFv offer several advantages over a whole antibody molecule in that the smaller size of the scFv allow it to penetrate more rapidly and evenly to tumors and can penetrate the blood brain-barrier. scFv fragments have more rapid clearance from blood, and therefore be coupled with drugs and radionuclides in order to result in low exposure of the healthy tissue. Also, there appears to be no uptake of the scFv by the kidney allowing them to efficiently localize to the tumors, an important property in cancer therapy.
Synonyms:	PTPRD; CD45R; LCA; L-CA; Leukocyte Common Antigen
Clonality:	Recombinant Monoclonal

Clone ID:	BC8
Format:	IgG1

Target Details

Gene Name:	PTPRC
Reactivity:	Human Leukocytes
Immunogen Type:	Native Protein
Immunogen:	Human Peripheral Blood Leukocytes
Purity/Specificity:	The scFv antibody fragment was purified from disrupted Escherichia coli culture by column chromatography.
Relevant Links:	• UniProtKB - P08575 • NCBI - NP_002829.3 • GeneID - 5788

Application Details

Application Note:	Recombinant scFv fragment Anti-Human CD45 Monoclonal Antibody has been tested in ELISA Capture, Flow Cytometry, Immunofluorescence. This antibody has been diluted for recommended use per test. Typically, we use 1×10^6 cells in a 100µL experimental sample (a test). Optimal titers for applications should be determined by the researcher.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	User Optimized
FC:	User Optimized
IF:	User Optimized

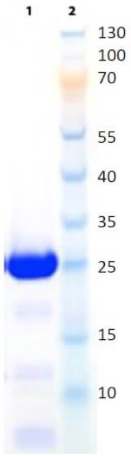
Formulation

Physical State:	Liquid (sterile filtered)
Concentration:	0.71 mg/mL by UV absorbance at 280 nm
Buffer:	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Preservative:	0.09% (w/v) Sodium Azide
Stabilizer:	None

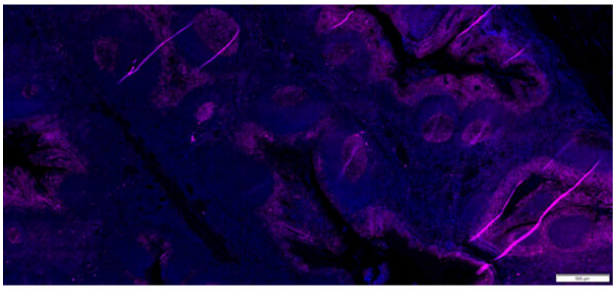
Shipping & Handling

Shipping Condition:	Dry Ice
Storage Condition:	Store undiluted at -20° C prior to opening. Protect from prolonged exposure to light.
Expiration:	Expiration date is eighteen (18) months from date of receipt.

Images



SDS-PAGE
SDS-PAGE of scFv fragment Anti-CD45 Antibody. Lane 1: Recombinant scFv fragment Anti-Human CD45 (Mouse) Antibody [5µg]. Lane 2: Molecular Weight Marker. Coomassie Stained. Demonstrating Single Band of Purity of scFv anti-CD45. Predicted MW: 28.2kDa. Observed MW: 25kDa.



Immunofluorescence Microscopy
Immunofluorescence of scFv fragment Anti-CD45 Antibody. Tissue: Human Tonsil FFPE. Antibody: Recombinant scFv fragment Anti-Human CD45 (Mouse) Antibody used at 0.8mg/mL. Permeabilization: 0.1% triton. Counterstain: DAPI. Predicted localization/observed: Shows specific cellular binding (mostly in the germinal centers of lymphoid follicles and some surrounding area such a stratified squamous epithelium). Results: The reagent worked well at ready to use concentration only and showed regional specificity.

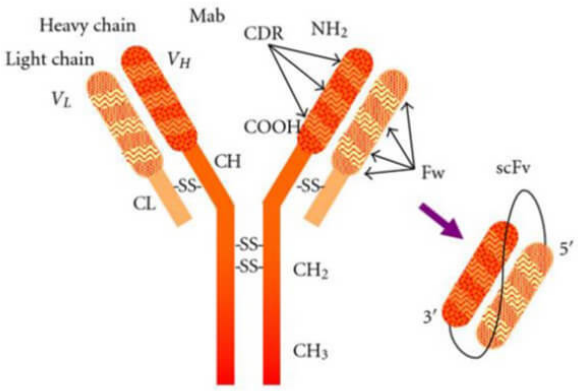


Diagram
Comparison of IgG and scFv.

Disclaimer

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