Recombinant Human B7-1/CD80 His-tag Alexa Fluor® 647

Catalog Number: AFR9050

DESCRIPTION

Source	Human embryonic kidney cell, HEK293-derived human B7-1/CD80 protein Val35-Asn242, with a C-terminal 6-His tag Accession # P33681.1
N-terminal Sequence Analysis	Val35
Structure / Form	Labeled with Alexa Fluor® 647 Excitation Wavelength: 650 nm Emission Wavelength: 668 nm
Predicted Molecular Mass	25 kDa

SPECIFICATIONS

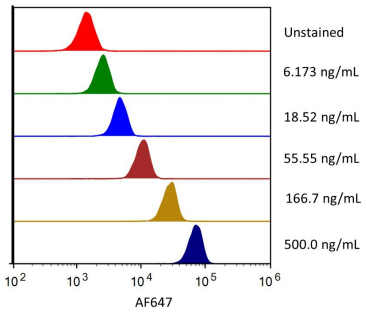
SDS-PAGE	45-58 kDa, under reducing conditions.
Activity	Measured by flow cytometry for its ability to bind anti-human B7-1 Monoclonal Antibody conjugated beads. The concentration of Recombinant Human B7-1 His-tag Alexa Fluor® 647 (Catalog # AFR9050) that produces 50% of the binding response is 3.00-30.0 ng/mL.
Endotoxin Level	<1.0 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Supplied as a 0.2 µm filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Shipping	The product is shipped with dry ice or equivalent. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Protect from light. Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 6 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after opening. • 3 months, -20 to -70 °C under sterile conditions after opening.

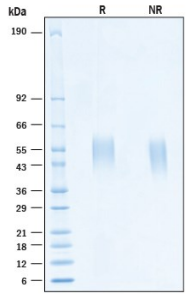
DATA

Flow Cytometry



Flow cytometry analysis for Recombinant Human B7-1/CD80 His-tag Alexa Fluor® 647 staining on Human B7-1/CD80 Monoclonal Antibody conjugated beads. Streptavidin coated beads conjugated to biotinylated Human B7-1/CD80 (Catalog # BAM1402) were stained with the indicated concentrations of Recombinant Human B7-1/CD80 His-tag Alexa Fluor® 647 Protein (Catalog # AFR9050).

SDS-PAGE



Recombinant Human B7-1/CD80 His-tag Alexa Fluor® 647 Protein SDS-PAGE. 2 µg/lane of Recombinant Human B7-1/CD80 His-tag Alexa Fluor® 647 Protein (Catalog # AFR9050) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 45-58 kDa.

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BACKGROUND

B7-1/CD80 and B7-2/CD86, together with their receptors CD28 and CTLA-4, constitute one of the dominant co-stimulatory pathways that regulate T- and B-cell responses (1). Although both CTLA-4 and CD28 can bind to the same ligands, CTLA-4 binds to B7-1 and B7-2 with a 20-100 fold higher affinity than CD28 and is involved in the down-regulation of the immune response (2-6). Mature human B7-1 consists of a 208 aa extracellular domain (ECD) with two immunoglobulin-like domains, a 21 aa transmembrane domain, and a 25 aa cytoplasmic domain (7). Within the ECD, human B7-1 shares 50% aa sequence identity with mouse and rat B7-1. Alternative splicing generates a 30 kDa soluble isoform that lacks the transmembrane segment and retains the ability to bind CD28 and CTLA-4 and an isoform that lacks the second Ig-like domain and the transmembrane segment (8). Both human and mouse B7-1 and B7-2 can bind to either human or mouse CD28 and CTLA-4 (1). B7-1 is expressed on activated B cells, activated T cells, and macrophages. B7-2 is constitutively expressed on interdigitating dendritic cells, Langerhans cells, peripheral blood dendritic cells, memory B cells, and germinal center B cells (2).

References:

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