### Description

**Source**
Human B7-1, Fc Tag (HPLC-verified) (B71-H5259) is expressed from human 293 cells (HEK293). It contains AA Val 35 - Asn 242 (Accession # NP_005182.1). Predicted N-terminus: Val 35

**Predicted N-terminus**
Val 35

**Protein Structure**

<table>
<thead>
<tr>
<th>B7-1 (Val 35 - Asn 242)</th>
<th>Fc (Pro 100 - Lys 330)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NP_005182.1</td>
<td>P01857</td>
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</table>

**Molecular Characterization**
This protein carries a human IgG1 Fc tag at the C-terminus. The protein has a calculated MW of 50 kDa. The protein migrates as 70-90 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation.

**Endotoxin**
Less than 1.0 EU per μg by the LAL method.

**Purity**
>95% as determined by SDS-PAGE.
>95% as determined by SEC-HPLC.

**Bioactivity**
Measured by its binding ability in a functional ELISA. Immobilized Human B7-1, Fc Tag (HPLC-verified) (Cat. No. B71-H5259) at 2 μg/mL (100 μL/well) can bind Biotinylated Human CTLA-4 (Cat. No. CT4-H62E4) with a linear range of 50-500 ng/mL (Routinely tested). Measured by its binding ability in a functional ELISA. Immobilized Human B7-1, Fc Tag (HPLC-verified) (Cat. No. B71-H5259) at 2 μg/mL (100 μL/well) can bind Human CTLA-4, Strep Tag (Cat. No. CT4-H5284) with a linear range of 1-20 ng/mL (QC tested). Measured by its binding ability in a functional ELISA. Immobilized Human B7-1, Fc Tag (Cat. No. B71-H5259) at 5 μg/mL (100 μL/well) can bind Biotinylated Human PD-L1, His Tag, Fc Tag (Cat. No. PD1-H82F3) with a linear range of 0.02-1.25 μg/mL (Routinely tested).

### Formulation and Storage

**Formulation**
Lyophilized from 0.22 μm filtered solution in 50 mM Tris, 100 mM Glycine, pH7.5. Normally trehalose is added as protectant before lyophilization.

**Contact us for customized product form or formulation.**

**Reconstitution**
Please see Certificate of Analysis for specific instructions. For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.

**Storage**
For long term storage, the product should be stored at lyophilized state at -20°C or lower. Please avoid repeated freeze-thaw cycles.

No activity loss was observed after storage at:
- 4-8°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

### Background

**Background**
B7-1 and B7-2, together with their receptors CD28 and CTLA-4, constitute one of the dominant co-stimulatory pathways that regulate T- and B-cell responses. 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. B-lymphocyte activation antigen B7-1 (referred to as B7) also known as cluster of Differentiation 80 (CD80), is a member of cell surface immunoglobulin superfamily and is expressed on activated B cells, activated T cells, macrophages and dendritic cells. It is the ligand for two different proteins on the T cell surface: CD28 (for autoregulation and intercellular association) and CTLA-4 (for attenuation of regulation and cellular disassociation).

**References**

Please contact us at TechSupport@acrobiostems.com, if you have any questions about this product.
Human B7-1 / CD80 Protein, Fc Tag (HPLC-verified)

Catalog # B71-H5259
For Research Use Only

Assay Data

SDS-PAGE Data

Human B7-1, Fc Tag (HPLC-verified) on SDS-PAGE under reducing (R) condition. The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 95%.

HPLC Data

The purity of Human B7-1, Fc Tag (HPLC-verified) (Cat.# B71-H5259) was greater than 95% as determined by SEC-HPLC.

Bioactivity Data-1

Immobilized Human B7-1, Fc Tag (HPLC-verified) (Cat. No. B71-H5259) at 2 μg/mL (100 μL/well) can bind Biotinylated Human CTLA-4 (Cat. No. CT4-H82E4) with a linear range of 50-500 ng/mL (Routinely tested).

Bioactivity Data-2

Immobilized Human B7-1, Fc Tag (HPLC-verified) (Cat. No. B71-H5259) at 2 μg/mL (100 μL/well) can bind Human CTLA-4, Strep Tag (Cat. No. CT4-H5284) with a linear range of 1-20 ng/mL (QC tested).

Bioactivity Data-3

Immobilized Human B7-1, Fc Tag (Cat. No. B71-H5259) at 5 μg/mL (100 μL/well) can bind Biotinylated Human PD-L1, His Tag, Fc Tag (Cat. No. PD1-H82F3) with a linear range of 0.02-1.25 μg/mL (Routinely tested).

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