

**DESCRIPTION**

**Source** Human embryonic kidney cell, HEK293-derived  
Leu23-Gly150, with a C-terminal 6-His tag  
Accession # Q96BF3

**N-terminal Sequence Analysis** Leu23

**Structure / Form**

**Predicted Molecular Mass** 15 kDa

**SPECIFICATIONS**

**SDS-PAGE** 21-34 kDa, reducing conditions

**Activity** Measured by its binding ability in a functional ELISA.  
When Recombinant Human TMIGD2/CD28H is immobilized at 0.125 µg/mL, 100 µL/well, the concentration of Recombinant Human B7-H7/HLA2 Fc Chimera (Catalog # 8084-B7) that produces 50% of the optimal binding response is approximately 0.2-1 µg/mL.

**Endotoxin Level** <0.10 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** Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

**PREPARATION AND STORAGE**

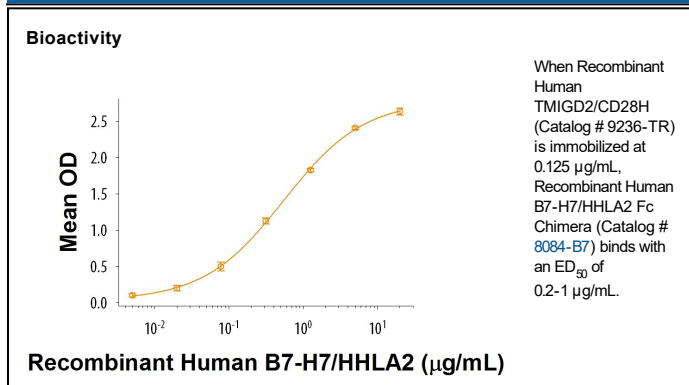
**Reconstitution** Reconstitute at 100 µg/mL in PBS.

**Shipping** The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

**Stability & Storage** Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

**DATA**



**BACKGROUND**

CD28 homolog (CD28H), also called TMIG2 and IGPR-1, is a 55 kDa glycosylated transmembrane protein that shares approximately 10% amino acid (aa) sequence identity with CD28, CTLA-4, ICOS, and PD-1. CD28H is composed of a single extracellular immunoglobulin variable-like domain (IgV) (aa 23-109), a transmembrane domain (aa 151-171), and a long cytoplasmic domain (aa172-282). CD28H is constitutively expressed on naive T and NK cells. Similar to the interaction of B7 with CD28, the interaction of CD28H with B7-H7 activates the Akt-dependent signaling cascade and promotes the proliferation and activation of newly generated peripheral effector and memory T cells (1, 2). CD28H is additionally expressed in the skin and epithelium lining the lung, airway, mammary gland, and gastrointestinal tract (3). It regulates cellular morphology, focal adhesion contact formation, and cell migration (3, 4). CD28H also participates in angiogenesis in vitro (3). CD28H interacts with multiple cytoskeletal proteins including Actin, Paxillin, SPIN90, CACNB2, and BPAG1. Interactions between the cytoplasmic proline-rich domain of CD28H and SPIN90 modulate the activity of CD28H in both angiogenesis and cell adhesion (3, 5).

**References:**

1. Zhu, Y. *et al.* (2013) *Nat. Commun.* **4**:2043.
2. Parry, R.V. *et al.* (2003) *J.Immunol.* **171**:166.
3. Rahimi, N. *et al.* (2012) *Mol. Biol. Cell.* **23**:1646.
4. Huang, C. *et al.* (2003) *Nature* **424**:219.
5. Kaneko, T. *et al.* (2008) *Front. Biosci.* **13**:4938.