CD70 Protein, Human (HEK293, Fc-Avi)

Cat. No.:	HY-P75387
Synonyms:	CD70 antigen; CD70; CD27 ligand; CD27LG; TNFSF7; CD27L
Species:	Human
Source:	HEK293
Accession:	P32970 (Q39-P193)
Gene ID:	970
Molecular Weight:	Approximately 45.7 kDa

PROPERTIES

Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μm filtered solution of PBS, pH 7.4. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background

CD70 (CD27 Ligand) belongs to the tumor necrosis factor (TNF) family, is the ligand for TNFRSF27/CD27[1].
CD70 and CD27 are homotrimer type II and homodimer type I transmembrane glycoprotein, expressing on activated and resting T and B lymphocytes, respectively[3][4]. As for a wildly use of CD70 in animal disease model, the sequence of amino acids in human is very different from mouse (56.25%) and rat (55.79%).
CD70 as one of the most frequently mutated genes in a series of diffuse large B cell lymphomas, especially acts in a crucial Epstein-Barr virus (EBV)-specific T cell immunity and more generally for the immune surveillance of B cells. CD70 inhibits EBV infection by restoring the expansion of EBV-specific T lymphocytes stimulated by the CD70-deficient EBV-infected B cells[3].
CD70 involves in activation of innate and adaptive immunity, expressing in the mature dendritic cells and being up-regulated upon the triggering of CD40 or Toll-like receptors[2].
CD70 induces proliferation of costimulated T cells, enhances the generation of cytolytic T cells, and contributes to T cell activation[4].
CD70 is also reported to play a role in regulating B-cell activation, cytotoxic function of natural killer cells, and immunoglobulin sythesis[5]. targeting CD70 positive tumors with CAR-T cells induces a potent antitumor response[6].

REFERENCES

[1]. Bowman MR, et al. The cloning of CD70 and its identification as the ligand for CD27. J Immunol. 1994 Feb 15;152(4):1756-61.

[2]. Jacobs J, et al. CD70: An emerging target in cancer immunotherapy. Pharmacol Ther. 2015 Nov;155:1-10.

[3]. Izawa K, et al. Inherited CD70 deficiency in humans reveals a critical role for the CD70-CD27 pathway in immunity to Epstein-Barr virus infection. J Exp Med. 2017 Jan;214(1):73-89.

[4]. Brown GR, et al. CD27-CD27 ligand/CD70 interactions enhance alloantigen-induced proliferation and cytolytic activity in CD8+ T lymphocytes. J Immunol. 1995 Apr 15;154(8):3686-95.

[5]. Kobata T, et al. CD27-CD70 interactions regulate B-cell activation by T cells. Proc Natl Acad Sci U S A. 1995 Nov 21;92(24):11249-53.

[6]. Jin L, et al. CD70, a novel target of CAR T-cell therapy for gliomas. Neuro Oncol. 2018 Jan 10;20(1):55-65.

[7]. Boursalian TE, et al. Targeting CD70 for human therapeutic use. Adv Exp Med Biol. 2009;647:108-19.

[8]. Cormary C, et al. Induction of T-cell antitumor immunity and protection against tumor growth by secretion of soluble human CD70 molecules. Cancer Gene Ther. 2004 Jul;11(7):497-507.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA