human CD28, GFP/His-Tag

T lymphocyte specific surface glycoprotein

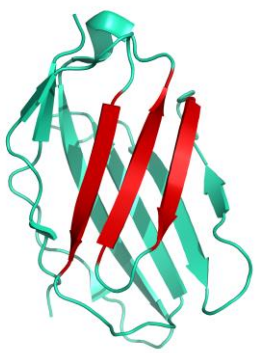
Cat. no. P2020-155

Product Information

Protein:	human CD28, GFP/His-Tag (~ 43.6 kDa)
Uniprot#:	P10747
Sequence:	MNKILVKQSPMLVAYDNAVNLSCKYSYNLFSREFRASLHKGLDSAVEVCVVYGNYSQQLQ VYSKTGFNCDGKLGNESVTFYLQNLYVNQTDIYFCKIEVMYPPPYLDNEKSNGTIIHVKG KHLCPSPLFPGPSKP Methionine at pos. 1 might be present due to cloning constraints, C-terminal His-tag and GFP-fusion not shown in sequence.
Source:	Recombinantly expressed in HEK293.
Tag(s):	GFP/His-tag, C-terminal
Purification:	Purified by affinity chromatography and subsequent buffer exchange.
Formulation:	PBS; pH 7.4. Liquid, stored and shipped at -80 °C.
Purity:	> 95 % (will be determined by densitometry of Coomassie stained gel, example next page)
Concentration:	Will be determined by BCA-Assay.
Long-term storage:	No recommendations.
Comment:	Protein migrates at higher molecular weight during SDS-PAGE due to posttranslational modifications.

Background Information:

Cluster of differentiation 28 (CD28) is a member of the immunoglobulin superfamily representing a type I transmembrane glycoprotein and is constitutively expressed on the surface of more than 80 % CD4+ T cells and 50 % CD8+ T cells in humans, whereas in mice, all naïve T cells express CD28. As co-stimulatory receptor, CD28 interacts with its ligands, CD80 (B7-1) and CD86 (B7-2), which are expressed on antigen-presenting cells (APCs), such as dendritic cells, macrophages and B cells. This interaction provides a second signal, next to antigen recognition, that is inevitable for T cell activation and proliferation and consequently, for the initiation of effective adaptive immune responses. Engagement of CD28 induces intracellular signaling pathways leading to the activation of transcription factors and the expression of genes, which are involved in T cell activation, proliferation, and cytokine production. Particularly,

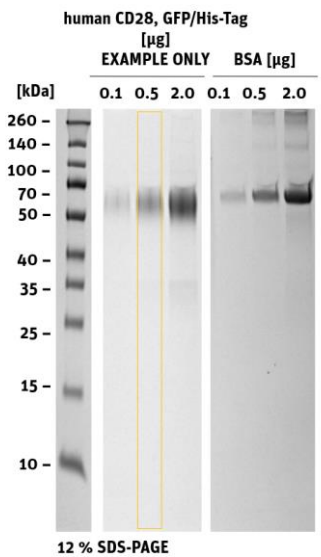


Structural model of human CD28

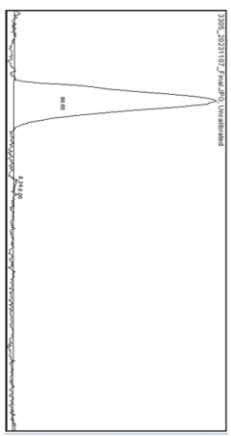
Product Information

CD28 signaling promotes the production of interleukin-2 (IL-2), a cytokine that is crucial for T cell proliferation, differentiation and survival. Furthermore, CD28 activation is involved in the generation of memory T cells, which contribute to sustained immunity. Aberrant CD28 signaling leads to autoimmune diseases, including rheumatoid arthritis, systemic lupus erythematosus, and multiple sclerosis. Therapeutically, CD28 holds promise as target for immunomodulatory strategies, such as blocking CD28 co-stimulation in order to suppress excessive immune responses, which occur in autoimmune diseases and transplant rejection. Additionally, modulation of CD28 signaling is explored to enhance anti-tumor immune responses.

Quality Information (provided for each lot):



SDS-PAGE/Coll.Coomassie



	Area	Percent
1	13863.397	99.679
2	33.071	0.238
3	11.536	0.083

Histogram (of marked lane in gel picture)