

Thy1/CD90 Protein, Human, Recombinant (His)

General Information

Synonyms:	Thy-1 cell surface antigen;CD90
Protein Construction:	A DNA sequence encoding the human THY1 (NP_006279.2) (Met1-Cys130) was expressed with a polyhistidine tag at the C-terminus. Predicted N terminal: Gln 20
Species:	Human
Expression Host:	HEK293 Cells
Accession:	B0YJA4
Molecular Weight:	14 kDa (predicted)

QC Testing

Biological Activity:	Loaded Recombinant Human Thy1/CD90 Protein, His Tag on NTA Biosensor, can bind Recombinant Human Galectin-1 Protein with an affinity constant of 46.9 nM as determined in BLI assay (Routinely tested).
Purity:	≥ 95 % as determined by SDS-PAGE. ≥ 85 % as determined by SEC-HPLC.
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:
A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Thy-1 membrane glycoprotein, also known as Thy-1 antigen, CD90 and THY1, is a cell membrane protein which contains 1 Ig-like V-type (immunoglobulin-like) domain. It is a glycoposphatidylinositol-linked glycoprotein expressed on the surface of neurons, thymocytes, subsets of fibroblasts, endothelial cells, mesangial cells and some hematopoietic cells. It has been identified on a variety of stem cells and at varying levels in non-lymphoid

tissues such as on fibroblasts, brain cells, and activated endothelial cells. Thy-1 is evolutionarily conserved, developmentally regulated, and often has dramatic effects on cell phenotype. Thy-1 is a 25-37 kDa glycosylphosphatidylinositol (GPI)-anchored protein involved in T cell activation, neurite outgrowth, apoptosis, tumor suppression, wound healing, and fibrosis. To mediate these diverse effects, Thy-1 participates in multiple signaling cascades. Thy-1 is an important regulator of cell-cell and cell-matrix interactions, with important roles in nerve regeneration, metastasis, inflammation, and fibrosis.

Reference

Rege TA, et al. (2006) Thy-1 as a regulator of cell-cell and cell-matrix interactions in axon regeneration, apoptosis, adhesion, migration, cancer, and fibrosis. *FASEB J.* 20(8): 1045-54.

Fiegel HC, et al. (2008) Lack of Thy1 (CD90) expression in neuroblastomas is correlated with impaired survival. *Pediatr Surg Int.* 24(1): 101-5.

Bradley JE, et al. (2009) Roles and regulation of Thy-1, a context-dependent modulator of cell phenotype. *Biofactors.* 35(3): 258-65.

Kisselbach L, et al. (2009) CD90 Expression on human primary cells and elimination of contaminating fibroblasts from cell cultures. *Cytotechnology.* 59(1): 31-44.

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