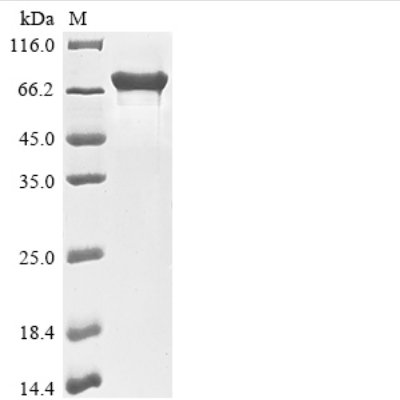
Recombinant Human YTH domain-containing family protein 1 (YTHDF1)

Product Code	CSB-EP874843HU
Abbreviation	Recombinant Human YTHDF1 protein
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	Q9BYJ9
Form	Liquid or Lyophilized powder
Storage Buffer	If the delivery form is liquid, the default storage buffer is Tris/PBS-based buffer, 5%-50% glycerol. If the delivery form is lyophilized powder, the buffer before lyophilization is Tris/PBS-based buffer, 6% Trehalose.
Product Type	Recombinant Proteins
Immunogen Species	Homo sapiens (Human)
Purity	Greater than 85% as determined by SDS-PAGE.
Sequence	SATSVDTQRTKGQDNKVQNGSLHQKDTVHDNDFEPYLTGQSNQSNSYPSMS DPYLSSYYPPSIGFPYSLNEAPWSTAGDPPIPYLTTYGQLSNGDHHFMHDAVF GQPGGLGNNIYQHRFNFFPENPAFSAWGTSGSQGQQTQSSAYGSSYTYPPS SLGGTVVDGQPGFHSDTLSKAPGMNSLEQGMVGLKIGDVSSSAVKTVGSVVS SVALTGVLSGNGGTNVNMPVSKPTSWAAIASKPAKPQPKMKTKSGPVMGGG LPPPPIKHNMDIGTWDNKGPVPKAPVPQQAPSPQAAPQPQQVAQPLPAQPPA LAQPQYQSPQQPPQTRWVAPRNRNAAFGQSGGAGSDSNSPGNVQPNSAPS VESHPVLEKLKAAHSYNPKEFEWNLKSGRVFIIKSYSEDDIHRSIKYSIWCSTEH GNKRLDSAFRCMSSKGPVYLLFSVNGSGHFCGVAEMKSPVDYGTSAGVWSQ DKWKGKFDVQWIFVKDVPNNQLRHIRLENNDNKPVTNSRDTQEVPLEKAKQV LKIISSYKHTTSIFDDFAHYEKRQEEEEVVRKERQSRNKQ
Research Area	Cell Biology
Source	E.coli
Target Names	YTHDF1
Protein Names	Recommended name: YTH domain family protein 1Alternative name(s): Dermatomyositis associated with cancer putative autoantigen 1 Short name= DACA-1
Expression Region	2-559aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 6xHis-tagged
Mol. Weight	66.7 kDa

Protein Length Full Length of Mature Protein

Image



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

Description

YTHDF1, a member of the YTH domain family, is an m6A reader protein that plays a crucial role in various cancers, including non-small cell lung cancer (NSCLC), colorectal carcinoma, hepatocellular carcinoma, and gastric tumors. It has been found to promote tumor progression, metastasis, and cancer stem cell-like activity [1][2]. YTHDF1 is involved in regulating mRNA stability and facilitating translation initiation by interacting with initiation factors and ribosomes [3][4]. Additionally, it has been linked to the activation of the PI3K/AKT/mTOR signaling pathway and the induction of epithelial-mesenchymal transition in hepatocellular carcinoma [2]. Furthermore, YTHDF1 has been associated with better patient survival and an inflamed tumor-immune microenvironment in NSCLC, indicating its potential as a prognostic biomarker [3][5]. Studies have also suggested that YTHDF1 may inhibit the growth of neuroblastoma and restore sensitivity to antitumor immunity in gastric tumors [6][7]. Moreover, YTHDF1 has been implicated in promoting cancer progression by regulating ferritin-mediated ferroptosis in lung carcinoma [4]. However, the molecular mechanisms through which YTHDF1 exerts its functions and its regulation remain areas of active research [8][9]. Overall, YTHDF1 emerges as a potential therapeutic target and prognostic biomarker in cancer, with its multifaceted roles in tumorigenesis and tumor progression.

References:

[1] Y. Bai, C. Yang, R. Wu, L. Huang, S. Song, W. Liet al., "Ythdf1 regulates tumorigenicity and cancer stem cell-like activity in human colorectal carcinoma", Frontiers in Oncology, vol. 9, 2019. https://doi.org/10.3389/fonc.2019.00332
[2] X. Luo, M. Cao, F. Gao, & X. He, "Ythdf1 promotes hepatocellular carcinoma progression via activating pi3k/akt/mtor signaling pathway and inducing epithelial-mesenchymal transition", Experimental Hematology and Oncology, vol. 10, no. 1, 2021. https://doi.org/10.1186/s40164-021-00227-0
[3] K. Tsuchiya, K. Yoshimura, Y. Inoue, Y. Iwashita, H. Yamada, A. Kawaseet al., "Ythdf1 and ythdf2 are associated with better patient survival and an inflamed tumor-immune microenvironment in non–small-cell lung cancer", Oncoimmunology, vol. 10, no. 1, 2021. https://doi.org/10.1080/2162402x.2021.1962656
[4] H. Diao, H. Tan, Y. Hu, R. Wang, P. Cai, B. Huanget al., "The m6a reader ythdf1 promotes lung carcinoma progression via regulating ferritin mediate

ferroptosis in an m6a-dependent manner", Pharmaceuticals, vol. 16, no. 2, p. 185, 2023. https://doi.org/10.3390/ph16020185
[5] J. Hu, D. Qiu, A. Yu, J. Hu, H. Deng, H. Liet al., "Ythdf1 is a potential pan-cancer biomarker for prognosis and immunotherapy", Frontiers in Oncology, vol. 11, 2021. https://doi.org/10.3389/fonc.2021.607224
[6] J. Deng, J. Long, Y. Yang, & F. Yang, "M6a reader ythdf1 inhibits the growth of neuroblastoma in vitro and in vivo",, 2023. https://doi.org/10.21203/rs.3.rs-3166065/v1
[7] X. Bai, Y. Pan, H. Chen, W. Liu, J. Zhai, W. Kanget al., "Loss of ythdf1 in gastric tumors restores sensitivity to antitumor immunity by recruiting mature dendritic cells", Journal for Immunotherapy of Cancer, vol. 10, no. 2, p. e003663, 2022. https://doi.org/10.1136/jitc-2021-003663
[8] J. Zhou, D. Xiao, T. Qiu, J. Li, & Z. Liu, "Loading microrna-376c in extracellular vesicles inhibits properties of non-small cell lung cancer cells by targeting ythdf1", Technology in Cancer Research & Treatment, vol. 19, p. 153303382097752, 2020. https://doi.org/10.1177/1533033820977525
[9] Y. Shi, S. Fan, M. Wu, Z. Zuo, X. Li, L. Jianget al., "Ythdf1 links hypoxia adaptation and non-small cell lung cancer progression", Nature Communications, vol. 10, no. 1, 2019. https://doi.org/10.1038/s41467-019-12801-6

Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL.We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.
Shelf Life	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.