PRODUCT INFORMATION

YTHDF2 (human, recombinant)

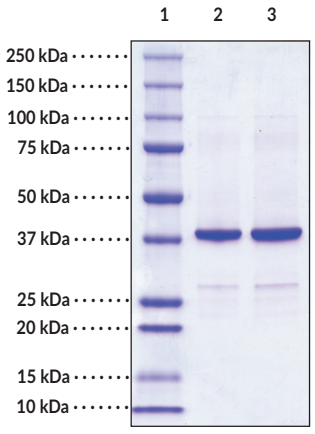
Item No. 26345

Overview and Properties

Synonyms:	CAHL, CLL-associated Antigen KW-14, HGRG8, High-Glucose-Regulated Protein 8, Renal Carcinoma Antigen NY-REN-2, YTH Domain-containing Family Member 2, YTH N^6-Methyladenosine RNA Binding Protein 2 (358-502; YTH domain)
Source:	Recombinant N-terminal GST-tagged YTHDF2 purified from *E. coli*
Amino Acids:	358-502
Uniprot No.:	Q9Y5A9
Molecular Weight:	43.24 kDa
Storage:	-80°C (as supplied)
Stability:	≥2 years
Purity:	***batch specific*** (≥90% estimated by SDS-PAGE)
Supplied in:	50 mM HEPES, pH 7.5, with 150 mM sodium chloride and 10% glycerol
Protein Concentration:	***batch specific*** mg/ml

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Image



Lane 1: MW Markers
Lane 2: YTHDF2 (2 µg)
Lane 3: YTHDF2 (4 µg)

Representative gel image shown; actual purity may vary between each batch.

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Description

YTH-Domain family member 2 (YTHDF2) is a reader protein that binds to N^6-methyladenosine (m^6A) to regulate mRNA degradation.[1,2] YTHDF2 binds to m^6A sites in the 3'-UTR of mRNA through its C-terminal YTH domain and recruits the CCR4-NOT deadenylase complex *via* its N-terminus to accelerate mRNA localization to decay sites, such as P-bodies, and promote subsequent degradation.[1-3] *Ythdf2* knockout results in a build-up of maternal mRNA in oocytes that induces female-specific infertility in mice.[4] Conditional knockout of *Ythdf2* increases the number of hematopoietic stem cells (HSCs) without shifting lineage differentiation or inducing malignancies.[5] It also increases *ex vivo* expansion of human umbilical cord HSCs. This product is the C-terminus of YTHDF2 corresponding to residues 358-502 of the human full-length sequence.

References

1. Du, H., Zhao, Y., He, J., *et al.* YTHDF2 destabilizes m^6A-containing RNA through direct recruitment of the CCR4-NOT deadenylase complex. *Nat. Commun.* **7:12626** (2016).
2. Zhong, L., Liao, D., Zhang, M., *et al.* YTHDF2 suppresses cell proliferation and growth via destabilizing the EGFR mRNA in hepatocellular carcinoma. *Cancer Lett.* **442**, 252-261 (2019).
3. Wang, X., Lu, Z., Gomez, A., *et al.* N^6-Methyladenosine-dependent regulation of messenger RNA stability. *Nature* **505(7481)**, 117-120 (2014).
4. Ivanova, I., Much, C., Di Giacomo, M., *et al.* The RNA m^6A reader YTHDF2 Is essential for the post-transcriptional regulation of the maternal transcriptome and oocyte competence. *Mol. Cell* **67(6)**, 1059-1067 (2017).
5. Li, Z., Qian, P., Shao, W., *et al.* Suppression of m^6A reader Ythdf2 promotes hematopoietic stem cell expansion. *Cell Res.* **28(9)**, 904-917 (2018).

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