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Produktinformation

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- Laborgeräte & Service

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Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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PRODUCT INFORMATION

YTHDC2 (human, recombinant)

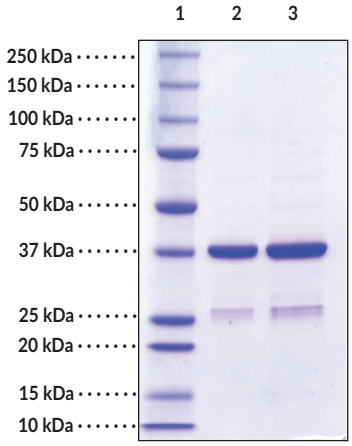
Item No. 26344

Overview and Properties

Synonyms:	CsA-Associated Helicase-Like Protein, hYTHDC2, Probable ATP-Dependent RNA Helicase YTHDC2, 3'-5' RNA Helicase YTHDC2, YTH Domain-Containing Protein 2
Source:	Recombinant N-terminal GST-tagged YTHDC2 purified from *E. coli*
Amino Acids:	1288-1421
Uniprot No.:	Q9H6S0
Molecular Weight:	42.13 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	***batch specific*** (≥85% estimated by SDS-PAGE)
Supplied in:	50 mM HEPES, pH 8.0, 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: YTHDC2 (2 µg)
Lane 3: YTHDC2 (4 µg)

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

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PRODUCT INFORMATION

Description

YTH domain containing 2 (YTHDC2) is an ATP-dependent 3'-5' RNA helicase and a member of the DExD/H-box family of helicases.[1] YTHDC2 contains ATP binding, ATP hydrolysis, and RNA binding motifs.[1] The YTH domain binds to N^6-methyladenosine-modified germline messenger RNA to regulate meiotic gene expression in mammalian germ cells, mediating the mitotic-to-meiotic transition in mouse germ cells.[2,3] *Ythdc2*$^{-/-}$ male and female mice show disrupted meiotic prophase progression.[3] Male *Ythdc2*$^{-/-}$ mice have degraded germ cells and lack mature spermatozoa, while female *Ythdc2*$^{-/-}$ mice lack developing ovarian follicles and have few germ cells. YTHDC2 also facilitates hepatitis C virus (HCV) genome replication by binding to the HCV replication cofactor cyclophilin B and the HCV RNA polymerase non-structural protein 5B (NS5B).[4] YTHDC2 downregulation inhibits proliferation in Huh7 hepatocellular carcinoma cells and reduces metastasis a Y2KD-116 mouse xenograft model using HCT116 cells in which YTHDC2 is downregulated.[4,5] The expression of YTHDC2 in isolated human tumor tissue is positively correlated with tumor stage and lymph node metastasis.[5]

References

1. Tanabe, A., Konno, J., Tanikawa, K., *et al.* Transcriptional machinery of TNF-α-inducible YTH domain containing 2 (YTHDC2) gene. *Gene* **535(1),** 24-32 (2014).
2. Wojtas, M.N., Pandey, R.R., Mendel, M., *et al.* Regulation of m^6A transcripts by the 3'→5' RNA helicase YTHDC2 is essential for a successful meiotic program in the mammalian germline. *Mol. Cell* **68(2)**, 374-387 (2017).
3. Bailey, A.S., Batista, P.J., Gold, R.S., *et al.* The conserved RNA helicase YTHDC2 regulates the transition from proliferation to differentiation in the germline. *Elife* **pii:e26116** (2017).
4. Morohashi, K., Sahara, H., Watashi, K., *et al.* Cyclosporin A associated helicase-like protein facilitates the association of hepatitis C virus RNA polymerase with its cellular cyclophilin B. *PLoS One* **6(4):e18285** (2011).
5. Tanabe, A., Tanikawa, K., Tsunetomi, M., *et al.* RNA helicase YTHDC2 promotes cancer metastasis via the enhancement of the efficiency by which *HIF-1α* mRNA is translated. *Cancer Lett.* **376(1)**, 34-42 (2016).

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