

## Recombinant YTHDC1 (325-502) protein

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**Catalog No:** 81100, 81800

**Lot No:** 34717001

**Expressed In:** *E. coli*

**Quantity:** 100, 1000 µg

**Concentration:** 1.2 µg/µl

**Source:** Human

**Buffer Contents:** Recombinant YTHDC1 (325-502) protein is supplied in 25 mM Tris-HCl pH 8.0, 300 mM NaCl, 10% glycerol and 0.5 mM TCEP.

**Background:** YTHDC1 (YTH Domain Containing 1), is a regulator of alternative splicing that specifically recognizes and binds N6-methyladenosine (m6A)-containing RNAs. M6A is a modification present at internal sites of mRNAs and some non-coding RNAs and plays a role in the efficiency of mRNA splicing, processing and stability. YTHDC1 acts as a key regulator of exon-inclusion or exon-skipping during alternative splicing via interaction with mRNA splicing factors SRSF3 and SRSF10. It specifically binds m6A-containing mRNAs and promotes recruitment of SRSF3 to its mRNA-binding elements adjacent to m6A sites, leading to exon-inclusion during alternative splicing. In contrast, interaction with SRSF3 prevents interaction with SRSF10, a splicing factor that promotes exon skipping: this prevents SRSF10 from binding to its mRNA-binding sites close to m6A-containing regions, leading to inhibit exon skipping during alternative splicing. YTHDC1 may also regulate alternative splice site selection.

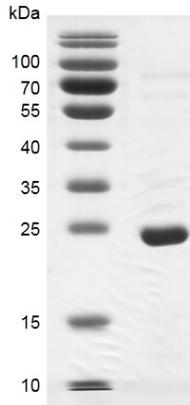
**Protein Details:** Recombinant YTHDC1 (325-502) protein corresponding to amino acids 325-502 that contains the YTH domain sequence of human YTHDC1 (accession number NP\_001317627.1) was expressed in *E. coli* cells with an N-terminal 6×His tag and a C-terminal Flag tag. The molecular weight of the protein is 24.9 kDa.

**Application Notes:** Recombinant YTHDC1 (325-502) protein is suitable for use in the study of binding assay, inhibitor screening, and selectivity profiling

Binding Assay Conditions: 3 µM oligo m6A ssDNA (GTTGG/m6A/CTT) was incubated with different concentrations of YTHDC1 (325-502) protein in 10 µl reaction system containing 50 mM HEPES-NaOH pH 7.5, 0.1% BSA for 1 hour, then 10 µl anti-FLAG antibody and SA-XL665 mixture (1:100 dilution in the same buffer) was added to each reaction system and incubated for 30 min. All the operations and reactions were performed at room temperature. HTRF assay was used for detection.

**Storage and Guarantee:** Recombinant proteins in solution are temperature sensitive and must be stored at -80°C to prevent degradation. Avoid repeated freeze/thaw cycles and keep on ice when not in storage. This product is for research use only and is not for use in diagnostic procedures. This product is guaranteed for 6 months from date of arrival.

### YTHDC1 (352-502)



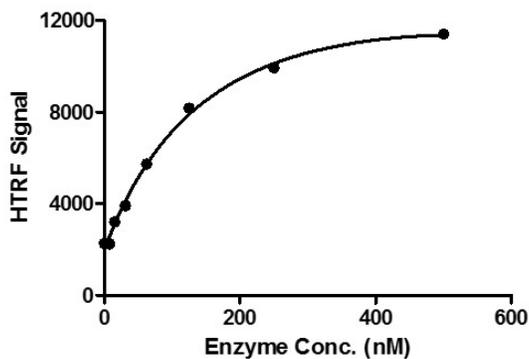
### Recombinant YTHDC1 (325-502) SDS PAGE gel

13% SDS-PAGE Coomassie staining

MW: 24.9 kDa

Purity: >90%

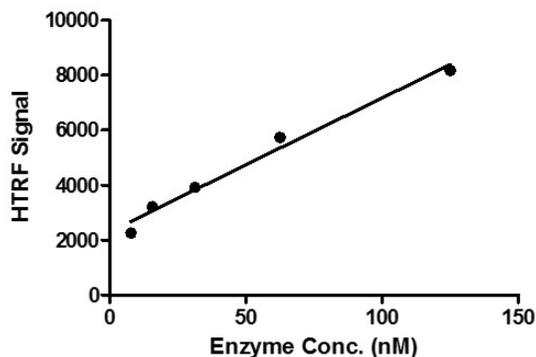
### YTHDC1 (325-502) Titration



### HTRF for YTHDC1 (325-502) activity

Oligo m6A ssDNA (GTTGG/m6A/CTT) was incubated with different concentrations of YTHDC1 (325-502) protein in a reaction system for 1 hour, then FLAG antibody and SA-XL665 mixture (1:100 dilution in the same buffer) was added to each reaction system and incubated for 30 min. All the operations and reactions were performed at room temperature. HTRF assay was used for detection.

### YTHDC1 (325-502) Titration



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