

## Recombinant YTHDF2 (401-554) protein

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**Catalog No:** 81103, 81803

**Lot No:** 34717001

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

**Quantity:** 100, 1000 µg

**Concentration:** 1.6 µg/µl

**Source:** Human

**Buffer Contents:** Recombinant YTHDF2 (401-554) protein is supplied in 25 mM Tris-HCl pH 8.0, 300 mM NaCl, 10% glycerol and 0.5 mM TCEP.

**Background:** YTHDF2 (YT521-B homology domain family 2, also known as CAHL, HGRG8, NY-REN-2) is a member of the YTH (YT521-B homology) superfamily containing YTH domain. Human YTH domain family proteins include three members, YTHDF1-3, which mainly localized in the cytoplasm. YTHDF proteins contain a highly conserved single-stranded RNA-binding domain which can specifically recognize and bind m6A-containing RNAs. An important role of YTHDF2 is in regulating mRNA stability. YTHDF2 recognizes many m6A-containing mRNAs that are not being actively translated and recruits them to cytoplasmic processing (P) bodies for degradation. YTHDF2 preserves 5'UTR methylation of stress-induced transcripts and promotes cap-independent mRNA translation by competitive binding and limiting the m6A 'eraser' FTO from demethylation.

N6-methylated adenine (m6A) is prevalently present in nearly all RNA types and can be found in all organisms from bacteria to humans. It preferentially appears around stop codons and within long internal exons in mammalian messenger RNAs. m6A plays an important role in the efficiency of mRNA splicing, processing, translation efficiency, editing and mRNA stability. m6A also takes place in other RNA molecules, such as primary miRNA (pri-miRNAs).

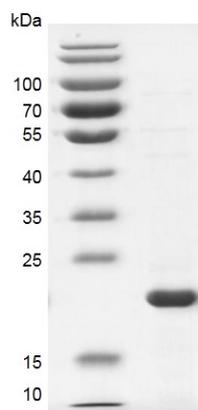
**Protein Details:** Recombinant YTHDF2 (401-554) protein corresponding to amino acids 401-554 that contains the YTH domain sequence of human YTHDF2 (accession number NP\_057342.2) was expressed in *E. coli* cells with an N-terminal 6×His tag and a C-terminal Flag tag. The molecular weight of the protein is 22.7 kDa.

**Application Notes:** Recombinant YTHDF2 (401-554) 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 YTHDF2 (401-554) 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.

### YTHDF2 (401-554)



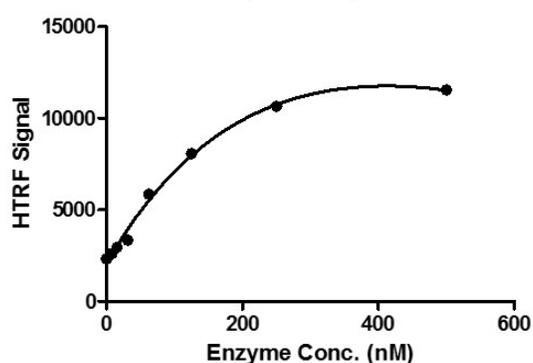
### Recombinant YTHDF2 (401-554) SDS PAGE gel

13% SDS-PAGE Coomassie staining

MW: 22.7 kDa

Purity: >95%

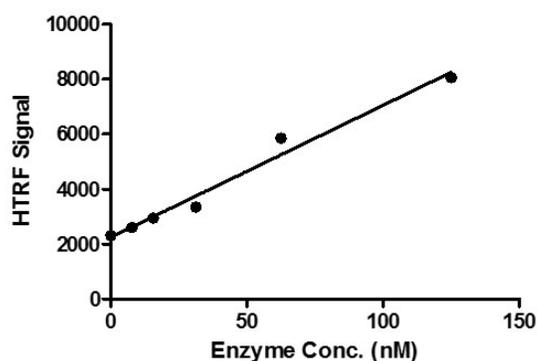
### YTHDF2 (401-554) Titration



### HTRF for YTHDF2 (401-554) activity

Oligo m6A ssDNA (GTTGG/m6A/CTT) was incubated with different concentrations of YTHDF2 (401-554) 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.

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