

Recombinant YTHDF1 (380-533) protein

Catalog No: 81102, 81802

Lot No: 34817001

Expressed In: *E. coli*

Quantity: 100, 1000 µg

Concentration: 1.5 µg/µl

Source: Human

Buffer Contents: Recombinant YTHDF1 (380-533) protein is supplied in 25 mM Tris-HCl pH 8.0, 300 mM NaCl, 10% glycerol and 0.5 mM TCEP.

Background: YTHDF1 (YT521-B homology domain family 1, also known as C20orf21, DACA-1) 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 comprise a highly conserved single-stranded RNA-binding domain which specifically recognizes and binds m6A-containing RNAs. An important role of YTHDF1 is regulating mRNA translation efficiency. YTHDF1 promotes ribosome loading to m6A-containing mRNAs and interacts with translation initiation factors eIF3 (EIF3A or EIF3B) to facilitate translation initiation.

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).

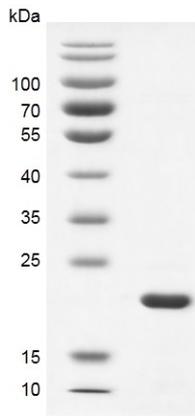
Protein Details: Recombinant YTHDF1 (380-533) protein corresponding to amino acids 380-533 that contains the YTH domain sequence of human YTHDF1 (accession number NP_060268.2) was expressed in *E. coli* cells with an N-terminal 6×His tag and a C-terminal Flag tag. The molecular weight of the protein is 22.6 kDa.

Application Notes: Recombinant YTHDF1 (380-533) 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 YTHDF1 (380-533) 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.

YTHDF1 (380-533)



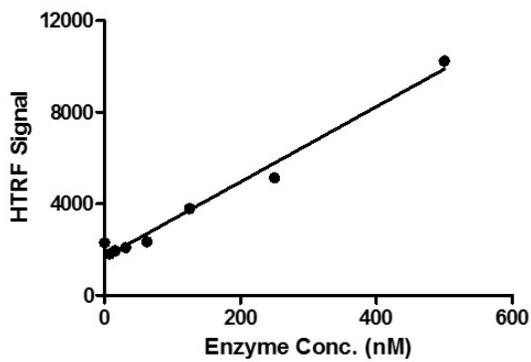
Recombinant YTHDF1 (380-533) SDS PAGE gel

13% SDS-PAGE Coomassie staining

MW: 22.6 kDa

Purity: >95%

YTHDF1 (380-533) Titration



HTRF for YTHDF1 (380-533) activity

Oligo m6A ssDNA (GTTGG/m6A/CTT) was incubated with different concentrations of YTHDF1 (380-533) 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.