Revision 1

Store at -20C

#80014

YTHDF2 Antibody

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IF-IC	H M R Mk	Endogenous	65	Rabbit	#Q9Y5A9	51441

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunofluorescence (Immunocytochemistry)	1:50 - 1:100

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. *Do not aliquot the antibody.*

Specificity/Sensitivity

YTHDF2 Antibody recognizes endogenous levels of total YTHDF2 protein.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Gly167 of human YTHDF2 protein. Antibodies are purified by peptide affinity chromatography.

Background

N^6-methyladenosine (m^6A) is an abundant RNA modification that plays an important role in mRNA splicing, processing, and stability. The m^6A modification is specifically recognized by members of the YT521B homology (YTH) domain-containing family (YTHDF), consisting of YTHDF1, YTHDF2, and YTHDF3. All three members of the YTHDF family are primarily cytosolic proteins that share similar sequence and domain structure, including a conserved C-terminal YTH domain that specifically interacts with m^6A (1). Despite these similarities, recent studies suggest that YTHDF proteins are involved in distinct regulatory functions with minimal overlap. Specifically, YTHDF1 binding has been reported to promote enhanced mRNA translation, but has no measurable effect on mRNA stability (2). Conversely, YTHDF2 binding appears to promote mRNA degradation, but has minimal effect on translation efficiency (3). The function of YTHDF3 is less clear, but it has been proposed to function as an auxiliary protein for both YTHDF1 and YTHDF2, helping to promote either increased mRNA translation or decay, respectively (4). Additional studies offer a different viewpoint, suggesting that all three YTHDF proteins initiate mRNA degradation (5), or mediate increased mRNA stability and protein expression (6), promoting the idea that these proteins may carry out similar rather than distinct functions.

Background References

1. Meyer, K.D. and Jaffrey, S.R. (2017) *Annu Rev Cell Dev Biol* 33, 319-42.
2. Wang, X. et al. (2015) *Cell* 161, 1388-99.
3. Wang, X. et al. (2014) *Nature* 505, 117-20.
4. Shi, H. et al. (2017) *Cell Res* 27, 315-28.
5. Du, H. et al. (2016) *Nat Commun* 7, 12626.
6. Kennedy, E.M. et al. (2016) *Cell Host Microbe* 19, 675-85.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IF-IC:** Immunofluorescence (Immunocytochemistry)

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat **Mk:** Monkey

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Limited Uses

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