Revision 1

Store at -20C

#37135

IRP2 (D6E6W) Rabbit mAb

Cell Signaling TECHNOLOGY®

Orders: 877-616-CELL (2355)
orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H	Endogenous	105	Rabbit IgG	#P48200	3658

Product Usage Information

Application	Dilution
Western Blotting	1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

IRP2 (D6E6W) Rabbit mAb recognizes endogenous levels of total IRP2 protein. It does not recognize human IRP1.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Pro731 of human IRP2 protein.

Background

Iron regulatory proteins (IRPs; also known as IREBs) are RNA-binding proteins that recognize iron-responsive elements (IREs) and play an important role in maintaining iron homeostasis in mammalian cells. IREs are conserved cis-regulatory hairpin structures located within the 5′ or 3′ untranslated regions (UTRs) of target mRNAs. IRPs inhibit translation when bound to IREs within the 5′ UTR of mRNA encoding for proteins involved in iron storage, export, and utilization. IRP binding to multiple IREs within the 3′ UTR of transferin receptor 1 (TFR1) mRNA prevents its degradation, thereby augmenting translation of TFR1 and increasing iron uptake into cells (1-3). Dysregulation of IRPs has been associated with human cancers (4-6).
In iron replete cells, FBXL5 targets IRP2 for degradation. Under iron deficiency and/or hypoxic conditions, FBXL5 is destabilized, resulting in IRP2 accumulation and interaction with IRE-containing mRNA (7).

Background References

1. Rouault, T.A. (2006) *Nat Chem Biol* 2, 406-14.
2. Wang, J. and Pantopoulos, K. (2011) *Biochem J* 434, 365-81.
3. Pantopoulos, K. et al. (2012) *Biochemistry* 51, 5705-24.
4. Haro, K.J. et al. (2012) *PLoS One* 7, e48841.
5. Wang, W. et al. (2014) *Cancer Res* 74, 497-507.
6. Jeong, S.M. et al. (2015) *Oncogene* 34, 2115-24.
7. Moroishi, T. et al. (2011) *Cell Metab* 14, 339-51.

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

Cross-Reactivity Key

H: Human

Trademarks and Patents

Limited Uses

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