Revision 1

Store at -20C

#13705

U2AF1 (D6S3Q) Rabbit mAb

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H M R Mk	Endogenous	35	Rabbit IgG	#Q01081	7307

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

U2AF1 (D6S3Q) Rabbit mAb recognizes endogenous levels of total U2AF1 protein.

Species predicted to react based on 100% sequence homology

Hamster, Zebrafish, Bovine

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ala47 of human U2AF1 protein.

Background

U2 small nuclear RNA auxiliary factor 1 (U2AF1) is the small (35 kDa) subunit of the U2 auxiliary factor (U2AF) that plays an essential role in the splicing of pre-mRNA to generate functional mRNA transcripts. U2AF1 forms a heterodimer with the large (65 kDa) U2AF2 subunit to create the U2 auxiliary factor that recognizes the 3' splice site and facilitates spliceosome assembly (1-3). Research studies indicate that U2AF1 binds to the 3'-splice site consensus AG dinucleotide at the intron-exon boundary while U2AF2 recognizes and binds the polyprimidine tract upstream of the 3' splice site. These two steps ensure accurate spliceosome assembly at splice sites (4-6). Mutations in the corresponding *U2AF1* gene are associated with a type of hematopoietic stem cell disorder known as myelodysplastic syndrome (MDS), which can be characterized by low blood counts, anemia, and enhanced acute myeloid leukemia risk (7-9). Somatic U2AF1 mutations frequently affect highly conserved zinc finger protein regions that result in defective pre-mRNA splicing of genes involved in cell cycle progression and RNA processing pathways, contributing to MDS pathogenesis (7,10).

Background References

1. Jurica, M.S. and Moore, M.J. (2003) *Mol Cell* 12, 5-14.
2. Kielkopf, C.L. et al. (2001) *Cell* 106, 595-605.
3. Zamore, P.D. and Green, M.R. (1989) *Proc Natl Acad Sci U S A* 86, 9243-7.
4. Merendino, L. et al. (1999) *Nature* 402, 838-41.
5. Wu, S. et al. (1999) *Nature* 402, 832-5.
6. Zamore, P.D. et al. (1992) *Nature* 355, 609-14.
7. Graubert, T.A. et al. (2012) *Nat Genet* 44, 53-7.
8. Hahn, C.N. and Scott, H.S. (2012) *Nat Genet* 44, 9-10.
9. Yoshida, K. et al. (2011) *Nature* 478, 64-9.
10. Przychodzen, B. et al. (2013) *Blood* 122, 999-1006.

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

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