Revision 1

#8746 Store at -20C

XPB (2C6) Mouse mAb

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, IP	H M R Mk	Endogenous	89	Mouse IgG2a	#P19447	2071

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:50

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

XPB (2C6) Mouse mAb recognizes endogenous levels of total XPB protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with recombinant protein specific to the carboxy terminus of human XPB protein.

Background

XPB and XPD are ATPase/helicase subunits of the TFIIH complex that are involved in nucleotide excision repair (NER) to remove lesions and photoproducts generated by UV light (1). XPB and XPD are 3'-5' and 5'-3' DNA helicases, respectively, that play a role in opening of the DNA damage site to facilitate repair (2,3). XPB and XPD both play an important role in maintaining genomic stability, and researchers have linked mutations of these proteins to Xeroderma Pigmentosum (XP) and Trichothiodystrophy (TTD). XP patients have abnormalities in skin pigmentation and are highly susceptible to skin cancers, while TTD patients exhibit symptoms such as brittle hair, neurological abnormalities, and mild photosensitivity (4). In addition to their role in NER, XPB and XPD are involved in transcription initiation as part of the TFIIH core complex (5). The helicase activity of XPB unwinds DNA around the transcription start site to facilitate RNA polymerase II promoter clearance and initiation of transcription (6). XPD plays a structural role linking core TFIIH components with the cdk-activating kinase (CAK) complex that phosphorylates the C-terminus of the largest subunit of RNA polymerase II, leading to transcription initiation (7).

Background References

1. Oksenych, V. and Coin, F. (2010) *Cell Cycle* 9, 90-6.
2. Evans, E. et al. (1997) *EMBO J* 16, 6559-73.
3. Riedl, T. et al. (2003) *EMBO J* 22, 5293-303.
4. Lehmann, A.R. (2003) *Biochimie* 85, 1101-11.
5. Drapkin, R. et al. (1994) *Nature* 368, 769-72.
6. Holstege, F.C. et al. (1996) *EMBO J* 15, 1666-77.
7. Rossignol, M. et al. (1997) *EMBO J* 16, 1628-37.

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 nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

WB: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster **X:** Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse **GP:** Guinea Pig **Rab:** rabbit **All:** all species expected

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