

XPD (D3Z6I) Rabbit mAb

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP	H M R Mk	Endogenous	80	Rabbit IgG	#P18074	2068

Product Usage Information**Application**

Western Blotting
Immunoprecipitation

Dilution

1:1000
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

XPD (D3Z6I) Rabbit mAb recognizes endogenous levels of total XPD protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus of human XPD 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

- Oksenyich, V. and Coin, F. (2010) *Cell Cycle* 9, 90-6.
- Evans, E. et al. (1997) *EMBO J* 16, 6559-73.
- Riedl, T. et al. (2003) *EMBO J* 22, 5293-303.
- Lehmann, A.R. (2003) *Biochimie* 85, 1101-11.
- Drapkin, R. et al. (1994) *Nature* 368, 769-72.
- Holstege, F.C. et al. (1996) *EMBO J* 15, 1666-77.
- 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 BSA, 1X TBS, 0.1% Tween@ 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

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

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