Revision 1

Store at -20C

#14607

XPA (D9U5U) 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	40	Rabbit IgG	#P23025	7507

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

XPA (D9U5U) Rabbit mAb recognizes endogenous levels of total XPA protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Arg158 of human XPA protein.

Background

Nucleotide excision repair (NER) is a process by which cells identify and repair DNA lesions that result from chemical and radiation exposure (1). The DNA binding protein XPA is an essential part of a pre-incision complex that forms at sites of damage, and is necessary for the initiation of nucleotide excision repair (2). XPA is one of eight NER proteins (XPA-G, XPV) encoded by genes that are defective in cases of xeroderma pigmentosum, a disorder characterized by sensitivity to sunlight, predisposition to exposed tissue cancers, and neurological defects in some patients (3). Activation of XPA follows phosphorylation at Ser196 and results in increased NER activity. Phosphorylation of XPA at Ser196 is induced by UV exposure in an ATR-dependant fashion (4) and promotes nuclear accumulation of XPA (5). Research studies suggest that XPA may be a direct substrate of the serine/threonine kinase ATR (4) and that NER activity may be negatively regulated through dephosphorylation of Ser196 by the phosphatase WIP1 (6).

Background References

1. Fuss, J.O. and Cooper, P.K. (2006) *PLoS Biol* 4, e203.
2. Missura, M. et al. (2001) *EMBO J* 20, 3554-64.
3. DiGiovanna, J.J. and Kraemer, K.H. (2012) *J Invest Dermatol* 132, 785-96.
4. Wu, X. et al. (2006) *Cancer Res* 66, 2997-3005.
5. Wu, X. et al. (2007) *Oncogene* 26, 757-64.
6. Nguyen, T.A. et al. (2010) *DNA Repair (Amst)* 9, 813-23.

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

W: Western Blotting

Cross-Reactivity Key

H: Human

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Limited Uses

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