

XPA (m): 293T Lysate: sc-126255

BACKGROUND

Xeroderma pigmentosum (XP) is an autosomal recessive disorder characterized by a genetic predisposition to sunlight-induced skin cancer due to deficiencies in the DNA repair enzymes. The most frequent mutations are found in the XP genes of group A through G and group V, which encode nucleotide excision repair proteins. Nucleotide excision repair (NER) is the normal cellular response to DNA damage induced by UV irradiation and is disrupted in patients with XP. Xeroderma pigmentosum group A (XPA) is an essential NER factor that coordinates the collection of a preincision complex during the processing of DNA damage. XPA may also have a role in the repair of oxidized DNA bases. XPA is sensitive not only to the structure of the DNA double helix, but also to bulky groups incorporated into DNA. XPA forms a homodimer in the absence of DNA, but binds to DNA in both monomeric and dimeric forms. The dimerically bound XPA is much more efficient, so cells probably regulate XPA activity in a concentration-dependent manner. XPA deficient organisms cannot repair UV-induced DNA damage and thus acquire skin cancers by UV irradiation very easily.

REFERENCES

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3. Kuraoka, I., et al. 1996. Identification of a damaged-DNA binding domain of the XPA protein. *Mutat. Res.* 362: 87-95.
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7. Liu, Y., et al. 2005. Cooperative interaction of human XPA stabilizes and enhances specific binding of XPA to DNA damage. *Biochemistry* 44: 7361-7368.
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CHROMOSOMAL LOCATION

Genetic locus: Xpa (mouse) mapping to 4 B1.

PRODUCT

XPA (m): 293T Lysate represents a lysate of mouse XPA transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

XPA (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive XPA antibodies. Recommended use: 10-20 µl per lane.

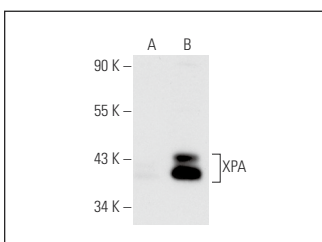
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

XPA (B-1): sc-28353 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse XPA expression in XPA transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



XPA (B-1): sc-28353. Western blot analysis of XPA expression in non-transfected: sc-117752 (A) and mouse XPA transfected: sc-126255 (B) 293T whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.