

Product datasheet

Anti-XPC antibody ab245385

2 Images

Overview

Product name	Anti-XPC antibody
Description	Rabbit polyclonal to XPC
Host species	Rabbit
Tested applications	Suitable for: IP, WB
Species reactivity	Reacts with: Human Predicted to work with: Dog, Chimpanzee, Monkey, Gorilla, Orangutan 
Immunogen	Synthetic peptide within Human XPC aa 890-940. The exact sequence is proprietary. (NP_004619.2). Database link: Q01831
Positive control	WB: HeLa whole cell lysate. IP: HeLa whole cell lysate.
General notes	<p>Reproducibility is key to advancing scientific discovery and accelerating scientists' next breakthrough.</p> <p>Abcam is leading the way with our range of recombinant antibodies, knockout-validated antibodies and knockout cell lines, all of which support improved reproducibility.</p> <p>We are also planning to innovate the way in which we present recommended applications and species on our product datasheets, so that only applications & species that have been tested in our own labs, our suppliers or by selected trusted collaborators are covered by our Abpromise™ guarantee.</p> <p>In preparation for this, we have started to update the applications & species that this product is Abpromise guaranteed for.</p> <p>We are also updating the applications & species that this product has been “predicted to work with,” however this information is not covered by our Abpromise guarantee.</p> <p>Applications & species from publications and Abreviews that have not been tested in our own labs or in those of our suppliers are not covered by the Abpromise guarantee.</p> <p>Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, as well as customer reviews and Q&As.</p>

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.
Storage buffer	pH: 6.8 Preservative: 0.09% Sodium azide Constituents: Tris buffered saline, 0.1% BSA
Purity	Immunogen affinity purified
Purification notes	ab245385 was affinity purified using an epitope specific to XPC immobilized on solid support.
Clonality	Polyclonal
Isotype	IgG

Applications

Our [Abpromise guarantee](#) covers the use of **ab245385** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
IP		Use at 2-5 µg/mg of lysate.
WB		1/2000 - 1/10000. Predicted molecular weight: 106 kDa.

Target

Function

Involved in global genome nucleotide excision repair (GG-NER) by acting as damage sensing and DNA-binding factor component of the XPC complex. Has only a low DNA repair activity by itself which is stimulated by RAD23B and RAD23A. Has a preference to bind DNA containing a short single-stranded segment but not to damaged oligonucleotides. This feature is proposed to be related to a dynamic sensor function: XPC can rapidly screen duplex DNA for non-hydrogen-bonded bases by forming a transient nucleoprotein intermediate complex which matures into a stable recognition complex through an intrinsic single-stranded DNA-binding activity.

The XPC complex is proposed to represent the first factor bound at the sites of DNA damage and together with other core recognition factors, XPA, RPA and the TFIIH complex, is part of the pre-precision (or initial recognition) complex. The XPC complex recognizes a wide spectrum of damaged DNA characterized by distortions of the DNA helix such as single-stranded loops, mismatched bubbles or single stranded overhangs. The orientation of XPC complex binding appears to be crucial for inducing a productive NER. XPC complex is proposed to recognize and to interact with unpaired bases on the undamaged DNA strand which is followed by recruitment of the TFIIH complex and subsequent scanning for lesions in the opposite strand in a 5'-to-3' direction by the NER machinery. Cyclobutane pyrimidine dimers (CPDs) which are formed upon UV-induced DNA damage escape detection by the XPC complex due to a low degree of structural perturbation. Instead they are detected by the UV-DDB complex which in turn recruits and cooperates with the XPC complex in the respective DNA repair. In vitro, the XPC:RAD23B dimer is sufficient to initiate NER; it preferentially binds to cisplatin and UV-damaged double-stranded DNA and also binds to a variety of chemically and structurally diverse DNA adducts. XPC:RAD23B contacts DNA both 5' and 3' of a cisplatin lesion with a preference for the 5' side. XPC:RAD23B induces a bend in DNA upon binding. XPC:RAD23B stimulates the activity of

DNA glycosylases TDG and SMUG1.

Involvement in disease

Defects in XPC are a cause of xeroderma pigmentosum complementation group C (XP-C) [MIM:278720]; also known as xeroderma pigmentosum III (XP3). XP-C is a rare human autosomal recessive disease characterized by solar sensitivity, high predisposition for developing cancers on areas exposed to sunlight and, in some cases, neurological abnormalities.

Sequence similarities

Belongs to the XPC family.

Post-translational modifications

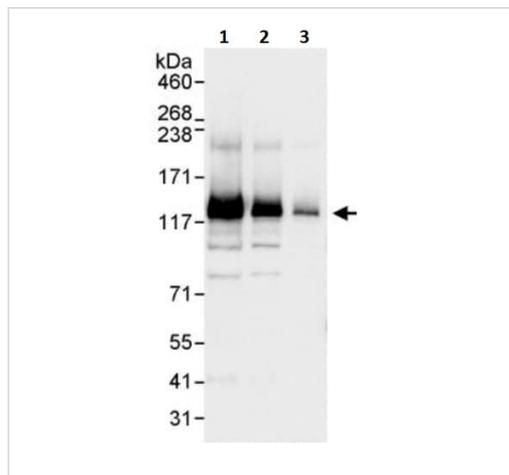
Phosphorylated upon DNA damage, probably by ATM or ATR.

Ubiquitinated upon UV irradiation; the ubiquitination requires the UV-DDB complex, appears to be reversible and does not serve as a signal for degradation.

Cellular localization

Nucleus. Cytoplasm. Omnipresent in the nucleus and consistently associates with and dissociates from DNA in the absence of DNA damage. Continuously shuttles between the cytoplasm and the nucleus, which is impeded by the presence of NER lesions.

Images



Western blot - Anti-XPC antibody (ab245385)

All lanes : Anti-XPC antibody (ab245385) at 0.04 $\mu\text{g/ml}$

Lane 1 : HeLa (human epithelial cell line from cervix adenocarcinoma) whole cell lysate at 50 μg

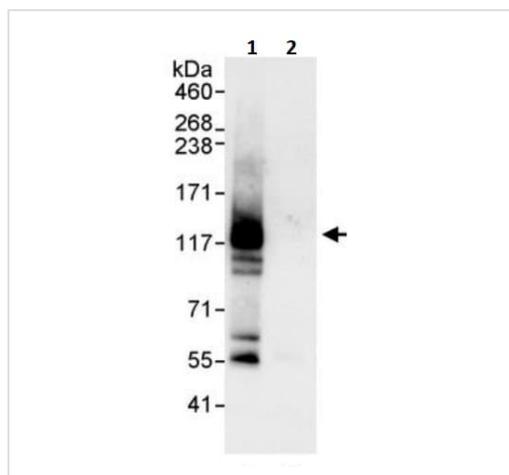
Lane 2 : HeLa whole cell lysate at 15 μg

Lane 3 : HeLa whole cell lysate at 5 μg

Developed using the ECL technique.

Predicted band size: 106 kDa

Exposure time: 3 seconds



Immunoprecipitation - Anti-XPC antibody (ab245385)

XPC was immunoprecipitated from HeLa (human epithelial cell line from cervix adenocarcinoma) whole cell lysate (1 mg per IP reaction; 20% of IP loaded) with ab245385 at 3 $\mu\text{g/mg}$ lysate.

Western blot was performed from the immunoprecipitate using ab245385 at 0.1 $\mu\text{g/ml}$.

Lane 1: ab245385 IP in HeLa whole cell lysate.

Lane 2: Control IgG IP in HeLa whole cell lysate.

Detection: Chemiluminescence with exposure time of 30 seconds.

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