


Product datasheet

Anti-CHFR antibody ab4184

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Overview

| | |
|----------------------------|--|
| Product name | Anti-CHFR antibody |
| Description | Rabbit polyclonal to CHFR |
| Specificity | The immunogen for this antibody is identical in all 3 isoforms of CHFR listed in SwissProt ID Q96EP1. |
| Tested applications | Suitable for: WB |
| Species reactivity | Reacts with: Human Predicted to work with: Mouse  |
| Immunogen | Synthetic peptide conjugated to KLH derived from within residues 450 - 550 of Human CHFR. Read Abcam's proprietary immunogen policy (Peptide available as ab24681 .) |
| Positive control | This antibody gave a positive signal in Hela, Jurkat and A431 whole cell lysates |

Properties

| | |
|-----------------------------|--|
| Form | Liquid |
| Storage instructions | Shipped at 4°C. Store at +4°C short term (1-2 weeks). Add glycerol to a final volume of 50% for extra stability and aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle. |
| Storage buffer | Preservative: 0.02% Sodium Azide Constituents: PBS, pH 7.4 |
| Purity | Immunogen affinity purified |
| Clonality | Polyclonal |
| Isotype | IgG |

Applications

Our [Abpromise guarantee](#) covers the use of **ab4184** 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 |
|-------------|-----------|-------|
| WB | | |

Application notes

WB: Use at a concentration of 1 µg/ml. Detects a band of approximately 76 kDa (predicted molecular weight: 73 kDa).

This antibody also appears to work in Immunofluorescence - see picture.

We believe this antibody is probably specific for CHFR because in IF with this antibody we see nuclear dots in SAOS2 cells (which have wt CHFR) but not in U2OS cells (that have a mutation in CHFR and hence low levels of it).

Not yet tested in other applications.

Optimal dilutions/concentrations should be determined by the end user.

Target**Function**

E3 ubiquitin-protein ligase that functions in the antephasic checkpoint by actively delaying passage into mitosis in response to microtubule poisons. Acts in early prophase before chromosome condensation, when the centrosome move apart from each other along the periphery of the nucleus. Probably involved in signaling the presence of mitotic stress caused by microtubule poisons by mediating the 'Lys-48'-linked ubiquitination of target proteins, leading to their degradation by the proteasome. Promotes the ubiquitination and subsequent degradation of AURKA and PLK1. Probably acts as a tumor suppressor, possibly by mediating the polyubiquitination of HDAC1, leading to its degradation. May also promote the formation of 'Lys-63'-linked polyubiquitin chains and functions with the specific ubiquitin-conjugating UBC13-MMS2 (UBE2N-UBE2V2) heterodimer. Substrates that are polyubiquitinated at 'Lys-63' are usually not targeted for degradation, but are rather involved in signaling cellular stress.

Tissue specificity

Ubiquitous.

Pathway

Protein modification; protein ubiquitination.

Sequence similarities

Belongs to the CHFR family.
Contains 1 FHA domain.
Contains 1 PBZ-type zinc finger.
Contains 1 RING-type zinc finger.

Developmental stage

Weakly expressed in G1 phase, and highly expressed during S phase.

Domain

The PBZ-type zinc finger (also named CYR) mediates non-covalent poly(ADP-ribose)-binding. Poly(ADP-ribose)-binding is dependent on the presence of zinc and is required for its function in antephasic checkpoint.
The FHA domain plays a key role in the anti-proliferative properties of the protein and is involved in initiating a cell cycle arrest at G2/M. The FHA domain may be required to interact with phosphorylated proteins.

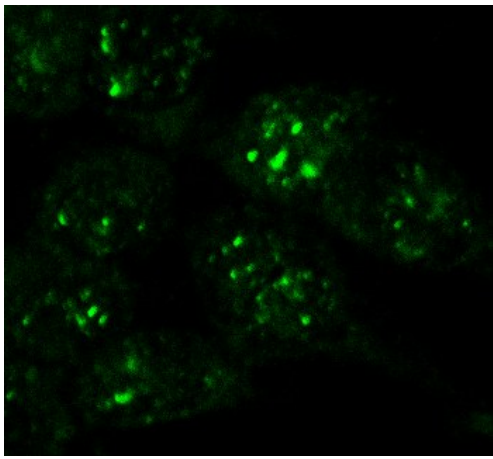
Post-translational modifications

Poly-ADP-ribosylated. In addition to binding non covalently poly(ADP-ribose) via its PBZ-type zinc finger, the protein is also covalently poly-ADP-ribosylated by PARP1.
Autoubiquitinated; may regulate its cellular level.
Phosphorylated upon DNA damage, probably by ATM or ATR (By similarity). Phosphorylated by PKB. Phosphorylation may affect its E3 ligase activity.

Cellular localization

Nucleus > PML body.

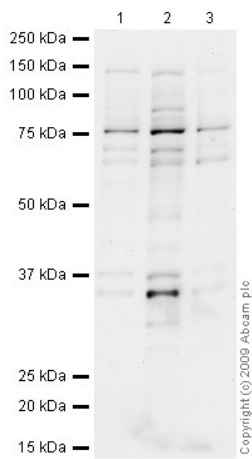
Images



Immunofluorescence - Anti-CHFR antibody (ab4184)

Immunofluorescence using ab4184 on SAOS2 cells with a FITC conjugated secondary antibody.

The foci seen are confined to the nuclei of the cells present in the picture.



Western blot - CHFR antibody (ab4184)

All lanes : Anti-CHFR antibody (ab4184) at 1 $\mu\text{g/ml}$

Lane 1 : HeLa (Human epithelial carcinoma cell line) Whole Cell Lysate

Lane 2 : Jurkat (Human T cell lymphoblast-like cell line) Whole Cell Lysate

Lane 3 : A431 (Human epithelial carcinoma cell line) Whole Cell Lysate

Lysates/proteins at 10 μg per lane.

Secondary

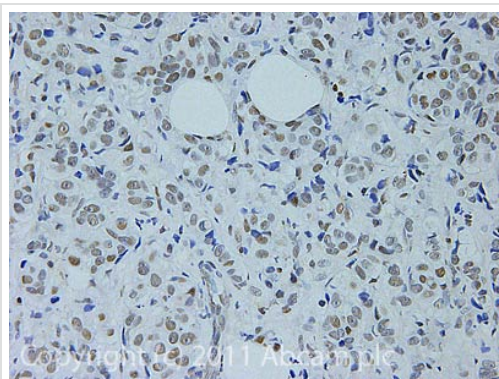
Goat polyclonal to Rabbit IgG - H&L - Pre-Adsorbed (HRP) at 1/3000 dilution

Performed under reducing conditions.

Predicted band size : 73 kDa

Observed band size : 76 kDa

Additional bands at : 34 kDa. We are unsure as to the identity of these extra bands.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CHFR antibody (ab4184)

IHC image of ab4184 staining in Human Breast adenocarcinoma formalin fixed paraffin embedded tissue section, performed on a Leica Bond™ system using the standard protocol F. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20 mins. The section was then incubated with ab4184, 5µg/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.

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