abcam

Product datasheet

Anti-c-Myc (phospho T58) antibody ab28842

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Overview

Product name	Anti-c-Myc (phospho T58) antibody
Description	Rabbit polyclonal to c-Myc (phospho T58)
Tested applications	**Suitable for:** IHC-P, IP, ELISA, ICC/IF, WB
Species reactivity	**Reacts with:** Human **Predicted to work with:** Mouse
Immunogen	Synthetic peptide corresponding to c-Myc.
Positive control	Purchase matching WB positive control: **Recombinant Human c-Myc protein** Ovarian cancer cell lysate, breast carcinoma tissue.

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.
Storage buffer	pH: 7.40 Preservative: 0.02% Sodium azide Constituents: 50% Glycerol, 0.87% Sodium chloride Without Mg2+ and Ca2+
Purity	Immunogen affinity purified
Purification notes	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific phosphopeptide. The antibody against non-phosphopeptide was removed by chromatography using non-phosphopeptide corresponding to the phosphorylation site.
Clonality	Polyclonal
Isotype	IgG

Applications

Our Abpromise guarantee covers the use of **ab28842** 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
IHC-P		Use at an assay dependent concentration.
IP		Use at an assay dependent concentration.
ELISA		1/1000.
ICC/IF		Use a concentration of 1 µg/ml.
WB	★★★★☆	1/500 - 1/1000. Predicted molecular weight: 49 kDa.

Target

Function

Participates in the regulation of gene transcription. Binds DNA in a non-specific manner, yet also specifically recognizes the core sequence 5'-CAC[GA]TG-3'. Seems to activate the transcription of growth-related genes.

Involvement in disease

Note=Overexpression of MYC is implicated in the etiology of a variety of hematopoietic tumors.
Note=A chromosomal aberration involving MYC may be a cause of a form of B-cell chronic lymphocytic leukemia. Translocation t(8;12)(q24;q22) with BTG1.
Defects in MYC are a cause of Burkitt lymphoma (BL) [MIM:113970]. A form of undifferentiated malignant lymphoma commonly manifested as a large osteolytic lesion in the jaw or as an abdominal mass. Note=Chromosomal aberrations involving MYC are usually found in Burkitt lymphoma. Translocations t(8;14), t(8;22) or t(2;8) which juxtapose MYC to one of the heavy or light chain immunoglobulin gene loci.

Sequence similarities

Contains 1 basic helix-loop-helix (bHLH) domain.

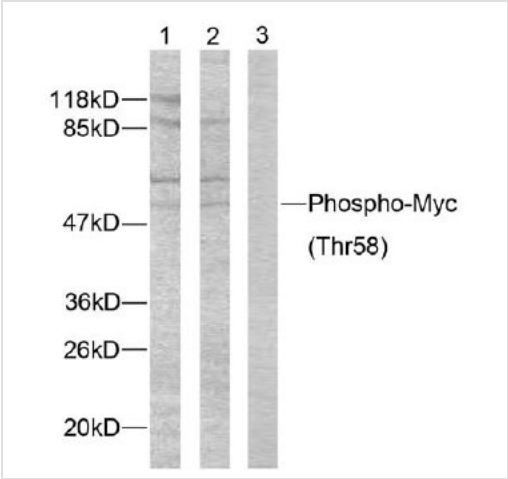
Post-translational modifications

Phosphorylated by PRKDC. Phosphorylation at Thr-58 and Ser-62 by GSK3 is required for ubiquitination and degradation by the proteasome. Phosphorylation at Ser-329 by PIM2 leads to the stabilization of MYC (By similarity). Phosphorylation at Ser-62 by CDK2 prevents Ras-induced senescence.
Ubiquitinated by the SCF(FBXW7) complex when phosphorylated at Thr-58 and Ser-62, leading to its degradation by the proteasome. In the nucleoplasm, ubiquitination is counteracted by USP28, which interacts with isoform 1 of FBXW7 (FBW7alpha), leading to its deubiquitination and preventing degradation. In the nucleolus, however, ubiquitination is not counteracted by USP28, due to the lack of interaction between isoform 4 of FBXW7 (FBW7gamma) and USP28, explaining the selective MYC degradation in the nucleolus. Also polyubiquitinated by the DCX(TRUSS) complex.

Cellular localization

Nucleus > nucleoplasm. Nucleus > nucleolus.

Images

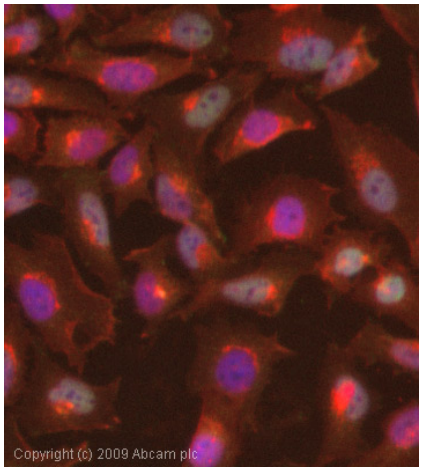


Western blot - Anti-c-Myc (phospho T58) antibody (ab28842)

Lane 1 : Anti-c-Myc (phospho T58) antibody (ab28842) at 1/500 dilution
Lane 2 : Anti-c-Myc (phospho T58) antibody (ab28842) at 1/500 dilution (preincubated with synthesized non- phosphopeptide)
Lane 3 : Anti-c-Myc (phospho T58) antibody (ab28842) at 1/500 dilution (preincubated with synthesized phosphopeptide)

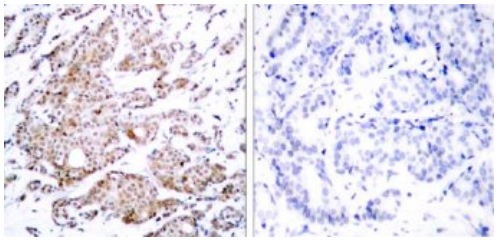
Lane 1 : human ovarian cancer cell lysate
Lane 2 : human ovarian cancer cell lysate
Lane 3 : human ovarian cancer cell lysate

Predicted band size : 49 kDa
Observed band size : 51 kDa
Additional bands at : 120 kDa,55 kDa,86 kDa. We are unsure as to the identity of these extra bands.



Immunocytochemistry/ Immunofluorescence - Anti-c-Myc (phospho T58) antibody (ab28842)

ICC/IF image of ab28864 stained HeLa cells. The cells were 4% PFA fixed (10 min) and then incubated in 1% BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab28864, 1µg/ml) overnight at +4°C. The secondary antibody (green) was Alexa Fluor® 488 goat anti-rabbit IgG (H+L) used at a 1/1000 dilution for 1h. Alexa Fluor® 594 WGA was used to label plasma membranes (red) at a 1/200 dilution for 1h. DAPI was used to stain the cell nuclei (blue) at a concentration of 1.43µM.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-c-Myc (phospho T58) antibody (ab28842)

Immunohistochemical analysis of paraffin-embedded breast carcinoma. Left: Using Myc (Phospho-Thr58) Antibody; Right: The same antibody preincubated with synthesized phosphopeptide.

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