abcam

Product datasheet

Anti-p63 antibody [4A4] ab3239

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Overview

Product name	Anti-p63 antibody [4A4]
Description	Mouse monoclonal [4A4] to p63
Host species	Mouse
Specificity	Recognizes all known isotypes of p63.
Tested applications	**Suitable for:** ICC/IF, IHC-P, IP, WB, ICC, ChIP
Species reactivity	**Reacts with:** Mouse, Rat, Human
Immunogen	Recombinant full length protein, corresponding to amino acids 1-205 of Human p63.
Positive control	ME180 cervical carcinoma cells. Squamous cell carcinoma or Skin.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid freeze / thaw cycles.
Storage buffer	10mM PBS, pH7.4, 0.2%BSA, 0.09% sodium azide
Purity	Protein A purified
Clonality	Monoclonal
Clone number	4A4
Isotype	IgG2a
Light chain type	kappa

Applications

The Abpromise guarantee Our Abpromise guarantee covers the use of ab3239 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
ICC/IF		Use at an assay dependent dilution.
IHC-P	(4)	Use a concentration of 0.5 - 1 µg/ml.

Application	Abreviews	Notes
IP		Use at 2 µg/mg of lysate.
WB	★★★★☆ (3)	Use a concentration of 1 - 2 µg/ml. Detects a band of approximately 63 kDa (predicted molecular weight: 70 kDa).
ICC	★★★★☆ (1)	Use at an assay dependent dilution.
ChIP	★★★★★ (1)	Use 1-4µg for 10^4 cells.

Target

Function

Acts as a sequence specific DNA binding transcriptional activator or repressor. The isoforms contain a varying set of transactivation and auto-regulating transactivation inhibiting domains thus showing an isoform specific activity. May be required in conjunction with TP73/p73 for initiation of p53/TP53 dependent apoptosis in response to genotoxic insults and the presence of activated oncogenes. Involved in Notch signaling by probably inducing JAG1 and JAG2. Plays a role in the regulation of epithelial morphogenesis. The ratio of DeltaN-type and TA*-type isoforms may govern the maintenance of epithelial stem cell compartments and regulate the initiation of epithelial stratification from the undifferentiated embryonal ectoderm. Required for limb formation from the apical ectodermal ridge.

Tissue specificity

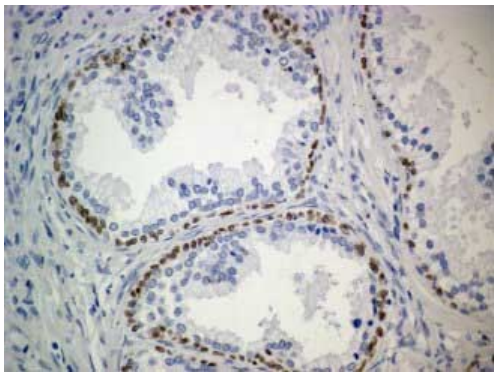
Widely expressed, notably in heart, kidney, placenta, prostate, skeletal muscle, testis and thymus, although the precise isoform varies according to tissue type. Progenitor cell layers of skin, breast, eye and prostate express high levels of DeltaN-type isoforms. Isoform 10 is predominantly expressed in skin squamous cell carcinomas, but not in normal skin tissues.

Involvement in disease

Defects in TP63 are the cause of acro-dermato-ungual-lacrimal-tooth syndrome (ADULT syndrome) [MIM:103285]; a form of ectodermal dysplasia. Ectodermal dysplasias (EDs) constitute a heterogeneous group of developmental disorders affecting tissues of ectodermal origin. EDs are characterized by abnormal development of two or more ectodermal structures such as hair, teeth, nails and sweat glands, with or without any additional clinical sign. Each combination of clinical features represents a different type of ectodermal dysplasia. ADULT syndrome involves ectrodactyly, syndactyly, finger- and toenail dysplasia, hypoplastic breasts and nipples, intensive freckling, lacrimal duct atresia, frontal alopecia, primary hypodontia, and loss of permanent teeth. ADULT differs significantly from EEC3 syndrome by the absence of facial clefting.
Defects in TP63 are the cause of ankyloblepharon-ectodermal defects-cleft lip/palate (AEC) [MIM:106260]. AEC is an autosomal dominant condition characterized by congenital ectodermal dysplasia with coarse, wiry, sparse hair, dystrophic nails, slight hypohidrosis, scalp infections, ankyloblepharon filiform adnatum, maxillary hypoplasia, hypodontia and cleft lip/palate.
Defects in TP63 are the cause of ectrodactyly-ectodermal dysplasia-cleft lip/palate syndrome type 3 (EEC3) [MIM:604292]. EEC3 is an autosomal dominant syndrome characterized by ectrodactyly of hands and feet, ectodermal dysplasia and facial clefting.
Defects in TP63 are the cause of split-hand/foot malformation type 4 (SHFM4) [MIM:605289]. Split-hand/split-foot malformation is a limb malformation involving the central rays of the autopod and presenting with syndactyly, median clefts of the hands and feet, and aplasia and/or hypoplasia of the phalanges, metacarpals, and metatarsals. There is restricted overlap between the mutational spectra of EEC3 and SHFM4.
Defects in TP63 are the cause of limb-mammary syndrome (LMS) [MIM:603543]. LMS is

	characterized by ectrodactyly, cleft palate and mammary-gland abnormalities. Note=Defects in TP63 are a cause of cervical, colon, head and neck, lung and ovarian cancers. Defects in TP63 are a cause of ectodermal dysplasia Rapp-Hodgkin type (EDRH) [MIM:129400]; also called Rapp-Hodgkin syndrome or anhidrotic ectodermal dysplasia with cleft lip/palate. Ectodermal dysplasia defines a heterogeneous group of disorders due to abnormal development of two or more ectodermal structures. EDRH is characterized by the combination of anhidrotic ectodermal dysplasia, cleft lip, and cleft palate. The clinical syndrome is comprised of a characteristic facies (narrow nose and small mouth), wiry, slow-growing, and uncombable hair, sparse eyelashes and eyebrows, obstructed lacrimal puncta/epiphora, bilateral stenosis of external auditory canals, microsomia, hypodontia, cone-shaped incisors, enamel hypoplasia, dystrophic nails, and cleft lip/cleft palate. Defects in TP63 are the cause of non-syndromic orofacial cleft type 8 (OFC8) [MIM:129400]. Non-syndromic orofacial cleft is a common birth defect consisting of cleft lips with or without cleft palate. Cleft lips are associated with cleft palate in two-third of cases. A cleft lip can occur on one or both sides and range in severity from a simple notch in the upper lip to a complete opening in the lip extending into the floor of the nostril and involving the upper gum.
Sequence similarities	Belongs to the p53 family. Contains 1 SAM (sterile alpha motif) domain.
Domain	The transactivation inhibitory domain (TID) can interact with, and inhibit the activity of the N-terminal transcriptional activation domain of TA*-type isoforms.
Post-translational modifications	May be sumoylated. Ubiquitinated. Polyubiquitination involves WWP1 and leads to proteasomal degradation of this protein.
Cellular localization	Nucleus.

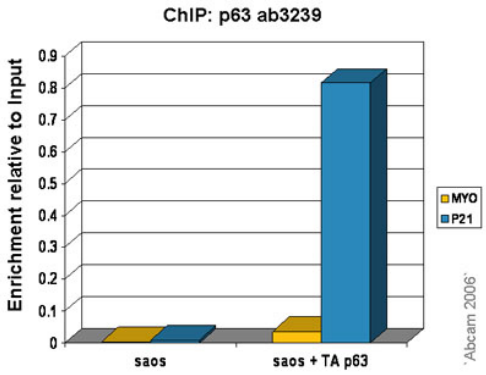
Images



Immunohistochemistry paraffin embedded sections - Anti-p63 antibody [4A4] (ab3239)

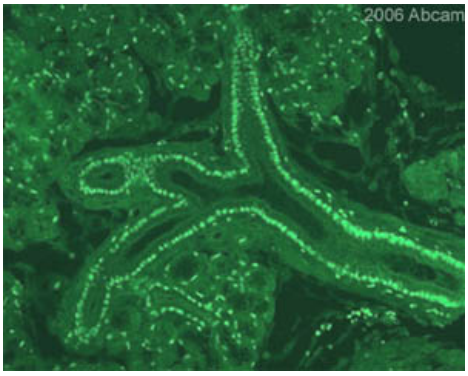
ab3239 at a dilution of 1/50 staining p63 in human prostate tissue sections by immunohistochemistry (paraffin embedded). Heat mediated antigen retrieval was employed and the antibody was incubated with the tissue sections for 16 hours. An HRP conjugated polyclonal anti-mouse antibody was used as the secondary reagent.

This image is courtesy of an Abreview submitted by Albert Santamaria on 5 December 2005.



ChIP - Anti-p63 antibody [4A4] (ab3239)

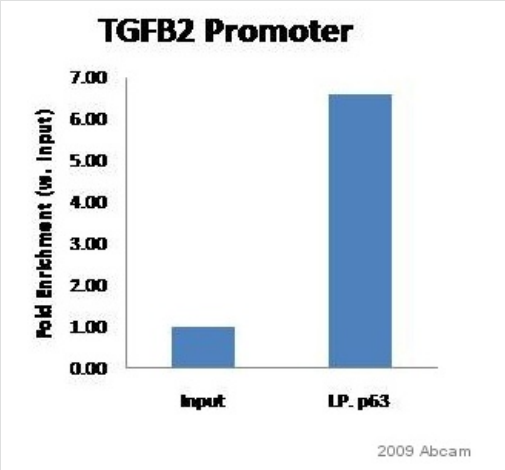
Chromatin from saos cells containing a stable Tet-on inducible Tap63α and a parental saos cell-line (as negative control) was used. The ChIP was performed with 4 million cells and 2µg of ab3239 and anlyased with primers specific for Myoglobin (MYO) and p21. Myoglobin is a negative control for p63 and p21 is a known positive target.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-p63 antibody [4A4] (ab3239)

This image is courtesy of an Abreview submitted by Dr I Miletich

ab3239 at 1/100 staining basal epithelial cells of the ducts of E18.5 mouse submandibular salivary glands by Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections). The tissue was paraformaldehyde fixed and incubated with the antibody for 16 hours. An Alexa Fluor ® 488 conjugated donkey anti-rabbit antibody was useed as the secondary.



ChIP - Anti-p63 antibody [4A4] (ab3239)

This image is a courtesy of Geoffrey Mitchell

Chromatin was prepared from whole tissue lysate of the mouse parotid salivary gland. The cross-linking (X-ChiP) technique was used, crosslinking was performed for 10 minutes in 1.5% paraformaldehyde. The primary antibody was used diluted to 0.2 µg/µg and incubated with the sample for 8 hours at 4°C. The immunoprecipitated DNA was quantified by real time PCR.

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