Anti-Desmoplakin I+II antibody ab71690

Overview

**Product name**
Anti-Desmoplakin I+II antibody

**Description**
Rabbit polyclonal to Desmoplakin I+II

**Host species**
Rabbit

**Tested applications**
**Suitable for:** WB, ICC/IF

**Species reactivity**
**Reacts with:** Human

**Immunogen**
Synthetic peptide derived from within residues 1-100 of Human Desmoplakin I+II.

Read Abcam’s proprietary immunogen policy (Peptide available as ab71689.)

**Positive control**
This antibody gave a positive signal in Caco 2 whole cell lysate

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 or -80°C. Avoid freeze / thaw cycle.

**Storage buffer**
Preservative: 0.02% Sodium Azide
Constituents: 1% BSA, PBS, pH 7.4

**Purity**
Immunogen affinity purified

**Clonality**
Polyclonal

**Isotype**
IgG

Applications

Our Abpromise guarantee covers the use of ab71690 in the following tested applications.

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

<table>
<thead>
<tr>
<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
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</thead>
<tbody>
<tr>
<td>WB</td>
<td>★★★★☆☆</td>
<td>Use a concentration of 1 µg/ml. Detects a band of approximately 238, 270 kDa (predicted molecular weight: 260, 332 kDa).</td>
</tr>
<tr>
<td>ICC/IF</td>
<td>★★★★☆☆</td>
<td>Use a concentration of 5 µg/ml.</td>
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**Function**  
Major high molecular weight protein of desmosomes. Involved in the organization of the desmosomal cadherin-plakoglobin complexes into discrete plasma membrane domains and in the anchoring of intermediate filaments to the desmosomes.

**Tissue specificity**  
Isoform DPI is apparently an obligate constituent of all desmosomes. Isoform DPII resides predominantly in tissues and cells of stratified origin.

**Involvement in disease**  
- Keratoderma, palmoplantar, striate 2
- Cardiomyopathy, dilated, with woolly hair and keratoderma
- Arrhythmogenic right ventricular dysplasia, familial, 8
- Skin fragility-woolly hair syndrome
- Epidermolysis bullosa, lethal acantholytic
- Cardiomyopathy, dilated, with woolly hair, keratoderma, and tooth agenesis

**Sequence similarities**  
Belongs to the plakin or cytolinker family.
Contains 17 plectin repeats.
Contains 1 SH3 domain.
Contains 6 spectrin repeats.

**Domain**  
Its association with epidermal and simple keratins is dependent on the tertiary structure induced by heterodimerization of these intermediate filaments proteins and most likely involves recognition sites located in the rod domain of these keratins.
The N-terminal region is required for localization to the desmosomal plaque and interacts with the N-terminal region of plakophilin 1.
The three tandem plakin repeat regions in the C-terminus mediate binding to intermediate filaments.

**Post-translational modifications**  
Ser-2849 is probably phosphorylated by a cAMP-dependent protein kinase. Phosphorylation on Ser-2849 probably affects its association with epidermal, simple cytokeratins and VIM intermediate filaments.
Substrate of transglutaminase. Some glutamines and lysines are cross-linked to other desmoplakin molecules, to other proteins such as keratin, envoplakin, periplakin and involucrin, and to lipids like omega-hydroxyacetamide (PubMed:9651377).

**Cellular localization**  
Desmoplakin I+II antibody (ab71690) at 1 µg/ml + Caco 2 (Human colonic carcinoma cell line) Whole Cell Lysate at 10 µg

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

Predicted band size: 260, 332 kDa
Observed band size: 238, 270 kDa
why is the actual band size different from the predicted?
Additional bands at: 110 kDa, 45 kDa. We are unsure as to the identity of these extra bands.

Immunocytochemistry/ Immunofluorescence - Anti-Desmoplakin I+II antibody (ab71690)

ICC/IF image of ab71690 stained HepG2 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 (ab71690, 5µg/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. This antibody also gave a positive result in 4% PFA fixed (10 min) HeLa, Hek293, MCF-7 cells at 5µg/ml.

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