Product datasheet

Anti-Cytokeratin 14 antibody [LL002] ab7800

Overview

Product name                     Anti-Cytokeratin 14 antibody [LL002]
Description                      Mouse monoclonal [LL002] to Cytokeratin 14
Host species                     Mouse
Tested applications              Suitable for: WB, Flow Cyt, ICC/IF, IHC-P, IHC-Fr
Species reactivity               Reacts with: Mouse, Rat, Human
Immunogen                        Synthetic peptide corresponding to Human Cytokeratin 14 (C terminal).
                                 Database link: P02533

General notes

This antibody labels the basal layer of stratifying squamous and non-squamous epithelia. The staining pattern is cytoplasmic. It recognizes basal cell carcinomas and squamous cell carcinomas.

Properties

Form                               Liquid
Storage instructions              Shipped at 4°C. Upon delivery aliquot. Store at +4°C. Do Not Freeze.
Storage buffer                    Preservative: 0.05% Sodium azide
                                   Constituents: PBS, 0.05% BSA
                                   Prepared in 10mM PBS
Purity                            Tissue culture supernatant
Primary antibody notes            This antibody labels the basal layer of stratifying squamous and non-squamous epithelia. The staining pattern is cytoplasmic. It recognizes basal cell carcinomas and squamous cell carcinomas.
Clonality                         Monoclonal
Clone number                      LL002
Isotype                           IgG3

Applications

Our Abpromise guarantee covers the use of ab7800 in the following tested applications.
Function
The nonhelical tail domain is involved in promoting KRT5-KRT14 filaments to self-organize into large bundles and enhances the mechanical properties involved in resilience of keratin intermediate filaments in vitro.

Tissue specificity
Detected in the basal layer, lowered within the more apically located layers specifically in the stratum spinosum, stratum granulosum but is not detected in stratum corneum. Strongly expressed in the outer root sheath of anagen follicles but not in the germinative matrix, inner root sheath or hair. Found in keratinocytes surrounding the club hair during telogen.

Involvement in disease
Defects in KRT14 are a cause of epidermolysis bullosa simplex Dowling-Meara type (DM-EBS) [MIM:131760]. DM-EBS is a severe form of intraepidermal epidermolysis bullosa characterized by generalized herpetiform blistering, milia formation, dystrophic nails, and mucous membrane involvement.
Defects in KRT14 are a cause of epidermolysis bullosa simplex Weber-Cockayne type (WC-EBS) [MIM:131800]. WC-EBS is a form of intraepidermal epidermolysis bullosa characterized by blistering limited to palmar and plantar areas of the skin.
Defects in KRT14 are a cause of epidermolysis bullosa simplex Koebner type (K-EBS) [MIM:131900]. K-EBS is a form of intraepidermal epidermolysis bullosa characterized by generalized skin blistering. The phenotype is not fundamentally distinct from the Dowling-Meara type, although it is less severe.
Defects in KRT14 are the cause of epidermolysis bullosa simplex autosomal recessive (AREBS) [MIM:601001]. AREBS is an intraepidermal epidermolysis bullosa characterized by localized blistering on the dorsal, lateral and plantar surfaces of the feet.
Defects in KRT14 are the cause of Naegeli-Franceschetti-Jadassohn syndrome (NFJS) [MIM:161000]; also known as Naegeli syndrome. NFJS is a rare autosomal dominant form of ectodermal dysplasia. The cardinal features are absence of dermatoglyphics (fingerprints), reticular cutaneous hyperpigmentation (starting at about the age of 2 years without a preceding inflammatory stage), palmoplantar keratoderma, hypohidrosis with diminished sweat gland function and discomfort provoked by heat, nail dystrophy, and tooth enamel defects.
Defects in KRT14 are the cause of dermatopathia pigmentosa reticularis (DPR) [MIM:125595]. DPR is a rare ectodermal dysplasia characterized by lifelong persistent reticulate

<table>
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<tr>
<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
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<td>WB</td>
<td></td>
<td>Use at an assay dependent concentration.</td>
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<tr>
<td>Flow Cyt</td>
<td></td>
<td>Use at an assay dependent concentration. 0.5-1ug/million cells in 0.1ml ab91537 - Mouse monoclonal IgG3, is suitable for use as an isotype control with this antibody.</td>
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<td>ICC(IF)</td>
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<td>Use a concentration of 0.5 - 1 µg/ml.</td>
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<tr>
<td>IHC-P</td>
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<td>Use a concentration of 0.5 - 1 µg/ml. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol. Incubate for 30 min at RT (See abreview)</td>
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<tr>
<td>IHC-Fr</td>
<td>1/20 - 1/300. PubMed: 23769181</td>
<td></td>
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Target

Function
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Defects in KRT14 are the cause of dermatopathia pigmentosa reticularis (DPR) [MIM:125595]. DPR is a rare ectodermal dysplasia characterized by lifelong persistent reticulate
hyperpigmentation, noncicatricial alopecia, and nail dystrophy.

**Sequence similarities**
Belongs to the intermediate filament family.

**Cellular localization**
Cytoplasm. Nucleus. Expressed in both as a filamentous pattern.

**Images**

ab7800 staining Cytokeratin 14 in Human prostate tissue sections by Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections).

ab7800 staining Cytokeratin 14 in Human normal skin tissue sections by IHC-P (Formaldehyde-fixed, Paraffin-embedded sections). Tissue samples were fixed with formaldehyde and blocked with 10% Serum for 30 minutes at 21°C; antigen retrieval was by heat mediation in citrate buffer (pH 6). The sample was incubated with primary antibody (1/100 in PBS + 0.5% Tween-20 + 0.5% BSA)) at 21°C for 30 minutes. An undiluted HRP-conjugated goat polyclonal to mouse IgG was used as secondary antibody.
ab7800 was used to stain mouse prostate.

Anti-Cytokeratin 14 antibody [LL002] (ab7800) at 2 µg/ml + Human HaCaT whole cell lysate at 30 µg

**Secondary**
Goat Anti-mouse IgG Polyclonal at 1/20000 dilution

Developed using the ECL technique.

**Observed band size:** 55 kDa

*why is the actual band size different from the predicted?*

**Exposure time:** 1 minute

**Blocking Step:** 5% Milk for 12 hours at 4°C

**Gel Running Conditions:** 15%, 6V, 50min; Reduced; Denaturing
ab7800 staining Cytokeratin 14 in Human prostate tissue sections by Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections).

Immunochemistry analysis of mouse mammary epithelial cells, staining Cytokeratin 14 (red) with ab7800.

Immunohistochemical analysis of mouse mammary duct tissue, staining Cytokeratin 14 (red) with ab7800.

Antigen retrieval was carried out on paraffin-embedded sections by boiling in citrate buffer (pH 6) for 18 minutes in a microwave. Sections were then blocked for 1.5 hours in blocking reagents, before incubating with primary antibody (0.26 µg/ml) overnight at 4°C. An AlexaFluor®555-conjugated goat anti-mouse IgG was used as the secondary antibody.
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