

Monoclonal Antibody to basic Cytokeratin - Supernatant

Catalog No.: AM33124SU-S

Quantity: 0.1 ml

Background: Cytokeratins are intermediate filament keratins found in the intracytoplasmic cytoskeleton of epithelial tissue. There are two types of Cytokeratins: the low weight, acidic type I cyto keratins and the high weight, basic or neutral type II. Cytokeratins are usually found in pairs comprising a type I Cytokeratin and a type II cyto keratin. The high molecular weight cyto keratins, which are the basic or neutral cyto keratins, comprise subtypes CK1 (67 kDa), CK2 (65.5kDa), CK3 (64kDa), CK4 (59kDa), CK5 (58kDa), CK6 (56kDa), CK7 (54kDa), CK8 (52.5kDa) and CK9. The low molecular weight cyto keratins, which are the acidic cyto keratins, comprise subtypes CK10 (56.5kDa), CK12 (56kDa), CK13 (53kDa), CK14 (50kDa), CK16(48kDa), CK17 (46kDa), CK18 (45kDa), CK19(48kDa) and CK20(46kDa).

Host / Isotype: Mouse / IgG1

Clone: 34betaE12

Immunogen: Solubilized Keratin extracted from Human stratum corneum.

Format: **State:** Liquid Bioreactor concentrate
Preservatives: 0.05% Sodium Azide

Applications: **Western Blot:** 1/100-1/200.
Flow Cytometry: 5-10 $\mu\text{l}/10^6$ cells.
Immunofluorescence: 1/50-1/100.
Immunoprecipitation: 5-10 $\mu\text{l}/500$ μg protein lysate.
Immunohistochemistry on Frozen and Formalin-Fixed, Paraffin-Embedded Sections: 1/100-1/200 for 30 minutes at RT.
Staining of formalin-fixed tissues requires boiling tissue sections in 10mM citrate buffer, pH 6.0, for 10-20 min followed by cooling at RT for 20 minutes.
Positive Control: PC12 cells, Skin, Prostate carcinoma.
Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

Molecular Weight: 67kDa (CK1); 58kDa (CK5); 56.5kDa (CK10); 50kDa (CK14)

Specificity: This antibody recognizes Keratin 1, 5, 10, and 14 in the Moll catalog (MW 68kDa, 58kDa, 56.5kDa, and 50kDa), respectively.
Keratin 34bE12 antibody promises to be a specific marker useful in differential identification of squamous carcinomas from adenocarcinomas and differential diagnosis of benign and malignant tumors of prostatic gland. In normal epithelia, it stains stratified epithelia, myoepithelial cells and basal cells in the prostate gland and bronchi. This MAb shows no reactivity with hepatocytes, pancreatic acinar cells, proximal renal tubules, or endometrial glands; there is no reactivity with cells derived from simple epithelia. Mesenchymal tumors, lymphomas, melanomas, neural tumors, and neuroendocrine

tumors are negative with this antibody. It stains myoepithelial cells and has been shown to be useful in distinguishing prostate adenocarcinoma from benign prostate. This antibody has also been useful in separating benign from malignant intraductal breast proliferations.

Cellular Localization: Cytoplasmic.

Species Reactivity: Tested: Human, Mouse, Rat.

Storage: Store undiluted at 2-8°C.

DO NOT FREEZE!

Shelf life: one year from despatch.

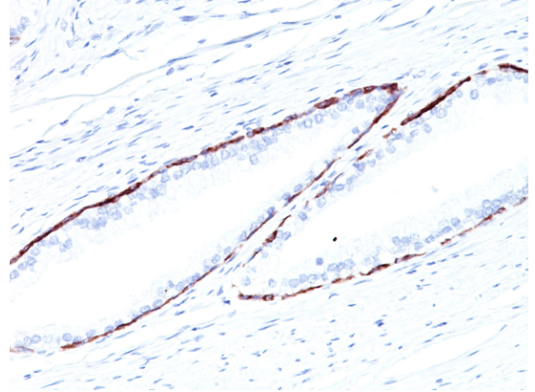
Product Citations: Originator or purchased from resellers:

1. Immunohistochemistry in Prostate Biopsy Evaluation. Rajal B. Shah M.D., Ming Zhou M.D., Ph.D. Prostate Biopsy Interpretation: An Illustrated Guide 2012, pp 29-40.

- General Readings:**
1. Gown AM, Vogel AM. Monoclonal antibodies to intermediate filament proteins of human cells: unique and cross-reacting antibodies. *J Cell Biol.* 1982 Nov;95(2 Pt 1):414-24. PubMed PMID: 6183272.
 2. Gown AM, Vogel AM. Monoclonal antibodies to human intermediate filament proteins. III. Analysis of tumors. *Am J Clin Pathol.* 1985 Oct;84(4):413-24. PubMed PMID: 2412434.
 3. O'Malley FP, Grignon DJ, Shum DT. Usefulness of immunoperoxidase staining with high-molecular-weight cytokeratin in the differential diagnosis of small-acinar lesions of the prostate gland. *Virchows Arch A Pathol Anat Histopathol.* 1990;417(3):191-6. PubMed PMID: 1696762.
 4. Woodcock et al. *J Cell Biol* 95: 580, 1982. 2. Tseng et al. *Cell* 30: 361, 1982.
 5. Sun et al. *J Invest Dermatol* 86: 249, 1986. 4. Klein-Szanto et al. *Arch Pathol Lab Med* 111; 1057, 1987.
 6. Scarpatetti M, Tsybrovskyy O, Popper HH. Cytokeratin typing as an aid in the differential diagnosis of primary versus metastatic lung carcinomas, and comparison with normal lung. *Virchows Arch.* 2002 Jan;440(1):70-6. PubMed PMID: 11942579.
 7. Bratthauer GL, Moinfar F, Stamatakos MD, Mezzetti TP, Shekitka KM, Man YG, et al. Combined E-cadherin and high molecular weight cytokeratin immunoprofile differentiates lobular, ductal, and hybrid mammary intraepithelial neoplasias. *Hum Pathol.* 2002 Jun;33(6):620-7. PubMed PMID: 12152161.
 8. Gal-Gombos EC, Esserman LE, Recine MA, Poppiti RJ. Large-needle core biopsy in atypical intraductal epithelial hyperplasia including immunohistochemical expression of high molecular weight cytokeratin: analysis of results of a single institution. *Breast J.* 2002 Sep-Oct;8(5):269-74. PubMed PMID: 12199753.
 9. Mirtti T, Alanen K, Kallajoki M, Rinne A, Söderström KO. Expression of cystatins, high molecular weight cytokeratin, and proliferation markers in prostatic adenocarcinoma and hyperplasia. *Prostate.* 2003 Mar 1;54(4):290-8. PubMed PMID: 12539227.
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 11. Ordóñez NG. Broad-spectrum immunohistochemical epithelial markers: a review. *Hum Pathol.* 2013 Jul;44(7):1195-215. doi: 10.1016/j.humpath.2012.11.016. Epub 2013 Feb 18. PubMed PMID: 23427873.
 12. Moinfar F, Man YG, Lininger RA, Bodian C, Tavassoli FA. Use of keratin 35betaE12 as an adjunct in the diagnosis of mammary intraepithelial neoplasia-ductal type--benign and malignant intraductal proliferations. *Am J Surg Pathol.* 1999 Sep;23(9):1048-58. PubMed PMID: 10478664.
 13. Varma M, Linden MD, Amin MB. Effect of formalin fixation and epitope retrieval techniques on antibody 34betaE12 immunostaining of prostatic tissues. *Mod Pathol.* 1999 May;12(5):472-8. PubMed PMID: 10349984.

Pictures:

Formalin-Fixed, Paraffin-Embedded Human prostate tissue (20X) stained with HMW Keratin antibody Cat.-No. AM33124SU (Clone 34betaE12) at 1/200 using peroxidase conjugate and DAB chromogen.



Formalin-Fixed, Paraffin-Embedded Human prostate tissue (10X) stained with HMW Keratin antibody Cat.-No. AM33124SU (Clone 34betaE12) at 1/200 using peroxidase conjugate and DAB chromogen.

