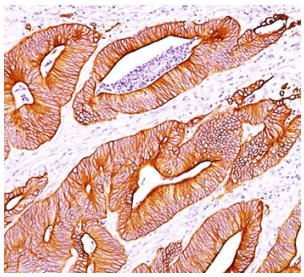
Pan Cytokeratin Antibody AE1/AE3 / Widely Cited Epithelial Marker Antibody [clone AE1/AE3] (V2330)

Catalog No.	Formulation	Size
V2330-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V2330-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V2330SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V2330IHC-7ML	Prediluted in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide; *For IHC use only*	7 ug

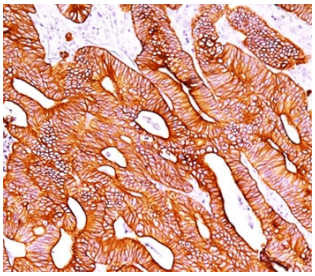
Citations (12)

Bulk quote request

Species Reactivity	Human, Mouse, Rat
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	AE1/AE3
Purity	Protein G affinity chromatography
Buffer	1X PBS, pH 7.4
Gene ID	3848 (K1); 3850 (K3); 3851 (K4); 3852 (K5); 3853 (K6A); 3856 (K8);3858 (K10); 3861 (K14); 3866 (K15); 3868 (K16); 3880 (K19)
Localization	Cytoplasmic
Applications	Flow Cytometry : 0.5-1ug/10e6 cells Immunofluorescence : 1-2ug/ml Western Blot : 0.5-1ug/ml for 2 hours at RT Immunohistochemistry (FFPE) : 0.5-1ug/ml for 30 min at RT (1) Prediluted IHC Only Format : incubate for 30 min at RT (2)
Limitations	This Pan Cytokeratin Antibody AE1/AE3 / Widely Cited Epithelial Marker Antibody is available for research use only.



Pan Cytokeratin Antibody colon carcinoma IHC. Immunohistochemistry analysis of cytokeratin expression in FFPE human colon carcinoma using Pan Cytokeratin antibody clone AE1/AE3. Strong cytoplasmic HRP-DAB brown staining highlights malignant epithelial cells forming glandular tumor structures, with clear delineation of carcinoma architecture against surrounding stromal tissue. The staining pattern supports epithelial lineage identification and is consistent with broad cytokeratin expression in carcinoma cells.



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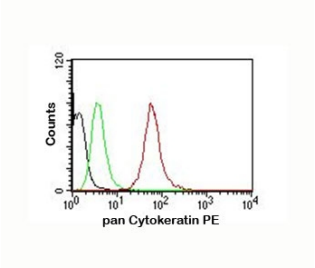

Pan Cytokeratin Antibody AE1/AE3 MCF-7 cells FACS. Flow cytometry analysis of cytokeratin expression in permeabilized human MCF-7 cells using Pan Cytokeratin antibody clone AE1/AE3 detected with a PE-conjugated format. The antibody-stained population (red) shows a clear right-shift compared to isotype control (green) and unstained cells (black), indicating strong intracellular detection of cytokeratin proteins. The distinct population separation supports accurate gating and reliable identification of epithelial cells in this epithelial cell line.

Description

Cytokeratins are a diverse family of intermediate filament proteins that form a structural framework within epithelial cells, where they maintain cellular integrity, support mechanical stability, and preserve tissue architecture. These proteins are classified into type I acidic and type II basic keratins, which heterodimerize to assemble filamentous networks throughout the cytoplasm. Because epithelial tissues express distinct combinations of cytokeratin isoforms depending on tissue type and differentiation state, antibodies that recognize multiple keratins are essential for comprehensive identification of epithelial lineage across a wide range of biological contexts.

Pan Cytokeratin Antibody / Widely Cited Epithelial Marker Antibody (clone AE1/AE3) is based on a dual-clone antibody cocktail composed of AE1 and AE3, which together provide broad coverage of cytokeratin proteins. The AE1 clone recognizes acidic (type I) cytokeratins, while AE3 detects basic (type II) cytokeratins, allowing the combined reagent to span both major keratin classes. This complementary binding profile enables detection of cytokeratins expressed in simple epithelia, stratified epithelia, and glandular tissues, making AE1/AE3 a comprehensive epithelial marker. Pan cytokeratin antibody AE1/AE3, also referred to as AE1 AE3 antibody or cytokeratin cocktail AE1 AE3, is widely recognized as a broad-spectrum reagent for epithelial detection.

The AE1/AE3 cytokeratin cocktail is frequently used as a foundational marker for identifying epithelial cells, particularly in complex samples where epithelial and non-epithelial components must be distinguished. Because cytokeratins are consistently expressed in epithelial cells and largely absent from mesenchymal, hematopoietic, and most stromal cell types, detection of cytokeratin proteins provides a reliable indicator of epithelial origin. The broad reactivity of AE1/AE3 ensures that epithelial cells are consistently labeled even when individual keratin isoforms vary across tissues or differentiation states.

The dual-clone design of AE1/AE3 provides a practical advantage over single-clone antibodies by combining complementary epitope recognition into a single reagent. This increases the likelihood of detecting cytokeratin expression across diverse epithelial cell types and reduces the risk of false-negative staining due to isoform variability. As a result,

AE1/AE3 is particularly effective in applications where comprehensive epithelial coverage is required rather than selective detection of specific keratin subtypes.

In studies of epithelial biology and tissue characterization, AE1/AE3 staining typically produces strong cytoplasmic labeling corresponding to the intermediate filament network within epithelial cells. This staining pattern enables clear visualization of epithelial structures and supports identification of epithelial components within heterogeneous samples. The ability to consistently detect epithelial cells across tissue types makes AE1/AE3 a reliable first-line marker in experimental workflows.

In tumor analysis, pan cytokeratin detection using AE1/AE3 is widely applied to identify epithelial-derived tumor cells and distinguish carcinomas from non-epithelial malignancies. The broad cytokeratin coverage provided by this cocktail allows clear visualization of tumor cell populations and supports evaluation of tumor composition and distribution. This makes AE1/AE3 particularly useful in studies where accurate identification of epithelial origin is critical.

Because AE1/AE3 is designed for broad cytokeratin recognition, it is not intended for isoform-specific analysis of individual keratins such as CK7, CK20, or KRT77. Instead, it provides an inclusive view of epithelial distribution that complements more specific keratin antibodies used to define epithelial subtypes and differentiation patterns. This distinction allows AE1/AE3 to serve as a core epithelial marker within multi-antibody panels.

As a monoclonal antibody cocktail, AE1/AE3 provides consistent and reproducible detection of cytokeratin proteins across experimental conditions. The combination of complementary clone specificity, broad keratin coverage, and well-established use as an epithelial marker supports reliable identification of epithelial cells in diverse biological samples.

Pan Cytokeratin Antibody clone AE1/AE3 therefore provides a robust and widely recognized approach for comprehensive epithelial detection, enabling accurate identification of epithelial lineage and broad visualization of cytokeratin expression across a range of research and analytical applications.

This antibody is part of our Pan Cytokeratin Antibody collection, which enables broad epithelial detection across normal and cancer tissues.

Application Notes

The concentration stated for each application is a general starting point. Variations in protocols, secondaries and substrates may require the Pan Cytokeratin Antibody AE1/AE3 / Widely Cited Epithelial Marker Antibody to be titered up or down for optimal performance.

1. 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.
2. The prediluted format is supplied in a dropper bottle and is optimized for use in IHC. After epitope retrieval step (if required), drip mAb solution onto the tissue section and incubate at RT for 30 min.

Immunogen

Human epidermal keratin was used as the immunogen for this Pan Cytokeratin antibody.

Storage

Store the Pan Cytokeratin antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

Alternate Names

AE1 AE3 cytokeratin antibody, pan cytokeratin AE1 AE3 antibody, cytokeratin cocktail AE1 AE3, epithelial marker AE1 AE3 antibody, CK pan AE1 AE3 antibody

References (2)