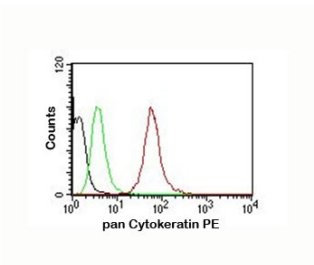
Pan Cytokeratin Antibody PE / High Sensitivity Epithelial Marker [clone AE1/AE3] (V2330PE)

Catalog No.	Formulation	Size
V2330PE-100T	500 ul at 0.1 mg/ml with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 Tests

Citations (13)

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	PE Conjugate
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 : 5ul/test/million cells or 5ul/test/100ul of whole blood Immunofluorescence : 1:50-1:100 for 30 minutes at RT (1)
Limitations	This Pan Cytokeratin Antibody PE / High Sensitivity Epithelial Marker is available for research use only.



Pan Cytokeratin Antibody PE MCF-7 cells FACS. Flow cytometry analysis of cytokeratin expression in permeabilized human MCF-7 cells using Pan Cytokeratin antibody clone AE1/AE3 in a PE-conjugated format. The antibody-stained population (red) shows a pronounced right-shift compared to isotype control (green) and unstained cells (black), reflecting strong intracellular cytokeratin detection. The high-intensity PE signal enables clear population separation and supports sensitive identification of epithelial cells in this epithelial cell line.

Description

Cytokeratins are a major class of intermediate filament proteins that form a structural network within epithelial cells, where they maintain cellular integrity, support mechanical stability, and preserve cell morphology. These proteins are divided into type I acidic and type II basic keratins, which heterodimerize to assemble filamentous cytoskeletal structures throughout the cytoplasm. Because cytokeratin expression is a defining characteristic of epithelial cells and is largely absent from mesenchymal, hematopoietic, and most stromal cell types, cytokeratins serve as reliable intracellular markers for identifying epithelial lineage in flow cytometry applications.

Pan Cytokeratin Antibody PE / High Sensitivity Epithelial Marker (clone AE1/AE3) is a phycoerythrin-conjugated antibody optimized for intracellular detection of cytokeratin proteins with enhanced fluorescence intensity. The AE1/AE3 antibody cocktail combines complementary recognition of type I and type II cytokeratins, enabling broad epithelial coverage across diverse cell types, while the PE fluorophore provides a high-quantum-yield signal that significantly improves detection sensitivity. Pan cytokeratin antibody AE1/AE3 PE, also referred to as cytokeratin PE conjugate or CK pan PE antibody, is particularly suited for applications requiring strong signal intensity and clear separation of positive and negative populations.

In flow cytometry analysis, PE is one of the brightest fluorophores available, producing high signal intensity and excellent resolution of cytokeratin-positive cells. This results in a pronounced right-shift of epithelial populations relative to isotype controls, improving gating precision and reducing ambiguity in population identification. The high brightness of PE is especially advantageous when detecting dim or heterogeneous cytokeratin expression, allowing subtle differences in expression level to be resolved more effectively than with lower-intensity fluorophores.

Because cytokeratins are intracellular cytoskeletal proteins, detection requires fixation and permeabilization of cells to allow antibody access to the filament network. Following permeabilization, AE1/AE3 PE staining generates a strong and uniform intracellular signal corresponding to cytokeratin abundance within epithelial cells. This enables reliable quantification of epithelial populations and supports accurate discrimination from non-epithelial cells in mixed samples.

PE-conjugated pan cytokeratin antibodies are particularly valuable in studies involving rare epithelial cell populations, including circulating tumor cells and low-frequency epithelial subsets in dissociated tissues. The enhanced sensitivity of PE improves detection of these populations even when present at low abundance, supporting more accurate enumeration and downstream analysis. This makes AE1/AE3 PE a strong choice for applications where sensitivity is prioritized over multiplex capacity.

The AE1/AE3 cocktail provides broad cytokeratin coverage, ensuring that epithelial cells are consistently detected regardless of keratin subtype expression. This inclusive detection profile is critical in heterogeneous samples where cytokeratin composition may vary across cells. The combination of broad epitope recognition and high-intensity PE signal provides a robust approach for identifying epithelial lineage at the single-cell level.

As a directly conjugated antibody, AE1/AE3 PE eliminates the need for secondary detection reagents, reducing protocol complexity and minimizing non-specific background. This simplifies experimental workflows and improves reproducibility, particularly in high-throughput or multi-sample flow cytometry studies.

Pan Cytokeratin Antibody PE therefore provides a high-sensitivity and high-resolution tool for detecting epithelial cells in flow cytometry, enabling precise gating, improved detection of rare populations, and reliable analysis of epithelial lineage in complex biological samples.

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 PE / High Sensitivity Epithelial Marker to be titered up or down for optimal performance.

Immunogen

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

Storage

Store the Pan Cytokeratin antibody at 2-8oC. Conjugate is light sensitive, store in the dark.

Alternate Names

Pan cytokeratin PE antibody, AE1 AE3 PE conjugate antibody, cytokeratin PE FACS antibody, epithelial marker PE antibody, CK pan PE antibody

References (2)