

# Product Datasheet

## Cytokeratin, pan Antibody (AE-1/AE-3) NBP2-29429

Unit Size: 0.1 mg

Store at 4C.

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**NBP2-29429**

Cytokeratin, pan Antibody (AE-1/AE-3)

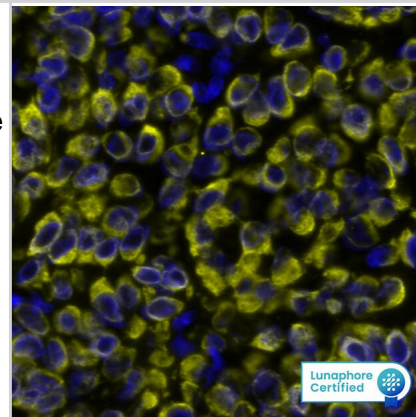
Product Information	
Unit Size	0.1 mg
Concentration	0.2 mg/ml
Storage	Store at 4C.
Clonality	Monoclonal
Clone	AE-1/AE-3
Preservative	0.05% Sodium Azide
Isotype	IgG1 Kappa/IgG1 Kappa
Purity	Protein A or G purified
Buffer	10 mM PBS with 0.05% BSA
Product Description	
Description	<p>200ug/ml of antibody purified from Bioreactor Concentrate by Protein A or G. Prepared in 10 mM PBS with 0.05% BSA &amp; 0.05% azide. Also available WITHOUT BSA &amp; azide at 1.0 mg/ml. (NBP2-33200)</p> <p>Antibody with azide - store at 2 to 8C. Antibody without azide - store at -20 to -80C.</p>
Host	Mouse
Gene ID	3848
Gene Symbol	KRT1
Species	Human, Mouse, Rat, Bovine, Canine, Chicken, Monkey, Rabbit, Reptile, Zebrafish
Reactivity Notes	Reptile reactivity reported in scientific literature (PMID: 11351328). Zebrafish reactivity reported in scientific literature (PMID: 30970016).
Marker	Epithelial Marker
Specificity/Sensitivity	<p>Twenty human keratins are resolved with two-dimensional gel electrophoresis into acidic (pI 6.0) subfamilies. This antibody cocktail recognizes acidic (Type I or LMW) and basic (Type II or HMW) cytokeratins, which 67kDa (CK1); 64kDa (CK3); 59kDa (CK4); 58kDa (CK5); 56kDa (CK6); 52kDa (CK8); 56.5kDa (CK10); 50kDa (CK14); 50kDa (CK15); 48kDa (CK16); 40kDa (CK19). Many studies have shown the usefulness of keratins as markers in cancer research and tumor diagnosis. AE-1/AE-3 is a broad spectrum anti pan-cytokeratin antibody cocktail, which differentiates epithelial tumors from non-epithelial tumors e.g. squamous vs. adenocarcinoma of the lung, liver carcinoma, breast cancer, and esophageal cancer. It has been used to characterize the source of various neoplasms and to study the distribution of cytokeratin containing cells in epithelia during normal development and during the development of epithelial neoplasms. This antibody stains cytokeratins present in normal and abnormal human tissues and has shown high sensitivity in the recognition of epithelial cells and carcinomas.</p>
Immunogen	Human epidermal keratin
Product Application Details	
Applications	Western Blot, Flow Cytometry, Flow (Intracellular), Immunocytochemistry/Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Frozen, Immunohistochemistry-Paraffin, CyTOF-reported, Dual RNAscope ISH-IHC, Multiplex Immunofluorescence, Single Cell Western



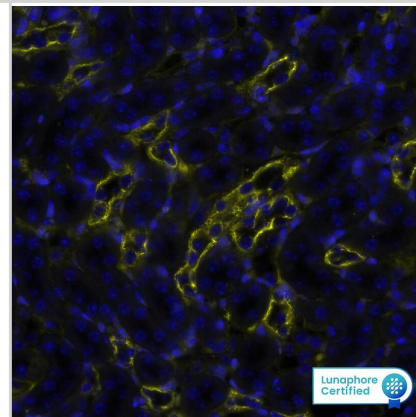
<b>Recommended Dilutions</b>	Western Blot 1-2 ug/ml, Flow Cytometry 1-2 ug/million cells, Immunohistochemistry, Immunocytochemistry/ Immunofluorescence 1-2 ug/ml, Immunohistochemistry-Paraffin 0.25-0.5 ug/ml, Immunohistochemistry-Frozen 0.5-1.0ug/ml, Flow (Intracellular), CyTOF-reported, Single Cell Western 1:10, Dual RNAscope ISH-IHC, Multiplex Immunofluorescence 1:200 - 1:500
<b>Application Notes</b>	<p>Use in ICC/IF reported in scientific literature (PMID:34376789)</p> <p>Immunohistochemistry (Formalin-fixed): 0.25-0.5ug/ml for 30 min at RT. Staining of formalin-fixed tissues requires heating tissue sections in 10mM Tris with 1mM EDTA, pH 9.0, for 45 min at 95C followed by cooling at RT for 20 minutes. Optimal dilution for a specific application should be determined.</p> <p>Western Blot: 1-2ug/ml for 2 hours at RT.</p> <p>The staining pattern of the pan cytokeratin antibody cocktail may be different than that of either antibody separately.</p> <p>This antibody cocktail recognizes acidic (Type I or LMW) and basic (Type II or HMW) cytokeratins, which 67 kDa (CK1) ; 64 kDa (CK3) ; 59 kDa (CK4) ; 58 kDa (CK5) ; 56 kDa (CK6) ; 52 kDa (CK8) ; 56.5 kDa (CK10) ; 50k Da (CK14) ; 50 kDa (CK15) ; 48 kDa (CK16) ; 40 kDa (CK19) . The pan cytokeratin cocktail does not react with keratin 18, which is also expressed in carcinomas. As such, negative staining with NBP2-29429 in of itself may not be sufficient evidence to rule out the possibility of a carcinoma (Ordonez, 2013) .</p> <p>For example, hepatocellular, adrenal cortical, clear cell renal and chromophobe renal cell carcinomas have been reported to be negative for the pan cytokeratin antibody. In this regard, the pan cytokeratin antibody can be used as part of a screening panel to more extensively define the tumor cell lineages.</p> <p>The pan cytokeratin antibody may cross-react with GFAP, leading to aberrant positive staining of glial tumors such as ependymoma, glioblastoma, or schwannoma (Ordonez, 2013) . Use in Immunohistochemistry reported in scientific literature (PMID: 29169625) . This Cytokeratin, pan Antibody (AE-1/AE-3) is validated for CyTOF from a verified customer review.</p>

## Images

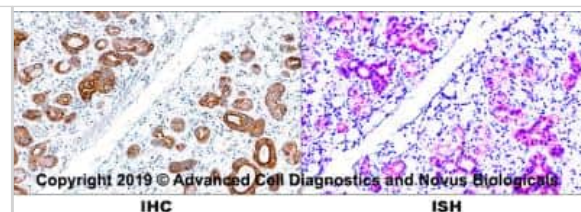
Pan-Cytokeratin was detected in immersion fixed paraffin-embedded sections of human Breast Tumor using Mouse Anti-Human Cytokeratin, pan Monoclonal Antibody (Catalog # NBP2-29429) at 1:500 at 37 ° Celsius for 4 minutes. Before incubation with the primary antibody, tissue underwent an all-in-one dewaxing and antigen retrieval preprocessing using PreTreatment Module (PT Module) and Dewax and HIER Buffer H (pH 9; EpreDia Catalog # TA-999-DHBH). Tissue was stained using the Alexa Fluor™ 555 Goat anti-Mouse IgG Secondary Antibody at 1:100 at 37 ° Celsius for 2 minutes. (Yellow; Lunaphore Catalog # [DR555MS](#)) and counterstained with DAPI (blue; Lunaphore Catalog # [DR100](#)). Specific staining was localized to the cytoplasm. Protocol available in [COMET™ Panel Builder](#).



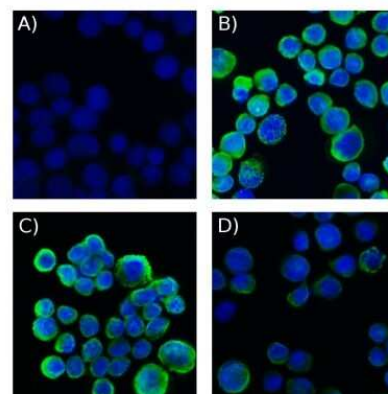
Cytokeratin, pan was detected in immersion fixed paraffin-embedded sections of mouse Kidney using Mouse Anti-Human/Mouse Cyokeratin, pan Monoclonal Antibody (Catalog #NBP2-29429) at 1:200 dilution at 37 ° Celsius for 4 minutes. Before incubation with the primary antibody, tissue underwent an all-in-one dewaxing and antigen retrieval preprocessing using PreTreatment Module (PT Module) and Dewax and HIER Buffer H (pH 9; EpreDia Catalog # TA-999-DHBH). Tissue was stained using the Alexa Fluor™ 647 Goat anti-Mouse IgG Secondary Antibody at 1:200 at 37 ° Celsius for 2 minutes. (Yellow; Lunaphore Catalog # [DR647MS](#)) and counterstained with DAPI (blue; Lunaphore Catalog # [DR100](#)). Specific staining was localized to the membrane. Protocol available in [COMET™ Panel Builder](#).



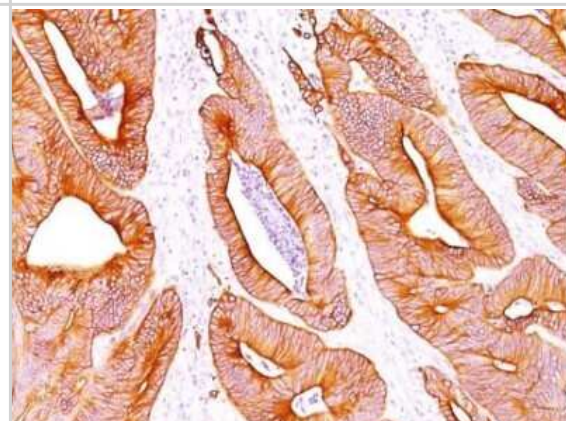
FFPE tissue sections of human metastatic tonsil were probed for Pan Cytokeratin mRNA (ACD RNAScope probe, catalog # 310221; Fast Red chromogen, ACD catalog # 322500). Adjacent tissue section was processed for IHC using mouse monoclonal antibody (Novus catalog # NBP2-29429) at 0.3  $\mu\text{g}/\text{mL}$  for 1 hour at room temperature followed by incubation with the anti-mouse IgG VisUCyte HRP Polymer Antibody (Novus Catalog # VC001) and DAB chromogen (yellow-brown). Tissue was counterstained with hematoxylin (blue).



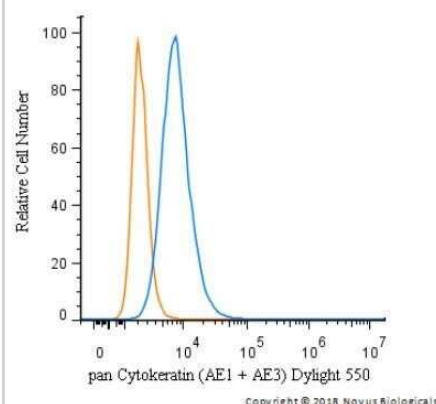
MCF-7 cells stained with Biotin conjugated version of pan Cytokeratin antibody and SAV-A488. A) SAV-A488 only at a dilution of 1:500, B) pan CK at a dilution of 1:200, C) pan CK at a dilution of 1:400, D) pan CK at a dilution of 1:800. ICC/IF image submitted by a verified customer review.



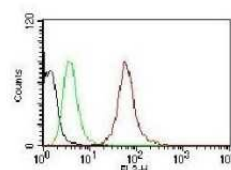
Analysis using Azide and BSA Free version of NBP2-29429. Human Colon Carcinoma stained with pan Cytokeratin Monoclonal Antibody cocktail (AE-1/AE3).



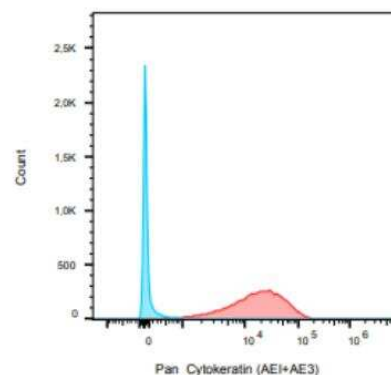
An intracellular stain was performed on HeLa cells with pan Cytokeratin Antibody (AE1 + AE3) NBP2-33200R (blue) and a matched isotype control (orange). Cells were fixed with 4% PFA and then permeabilized with 0.1% saponin. Cells were incubated in an antibody dilution of 10  $\mu\text{g}/\text{mL}$  for 30 minutes at room temperature. Both antibodies were conjugated to DyLight 550.



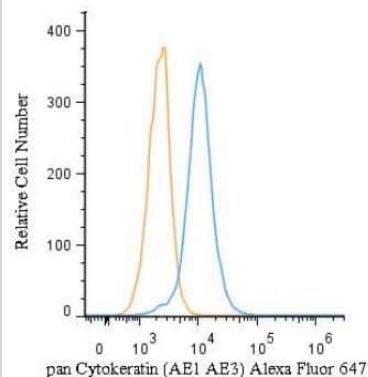
Human Pan-Cytokeratins on HeLa Cells. Black: Cells alone; Green: Isotype Control; Red: PE-labeled Pan-Cytokeratin Monoclonal Antibody (AE-1/AE-3)



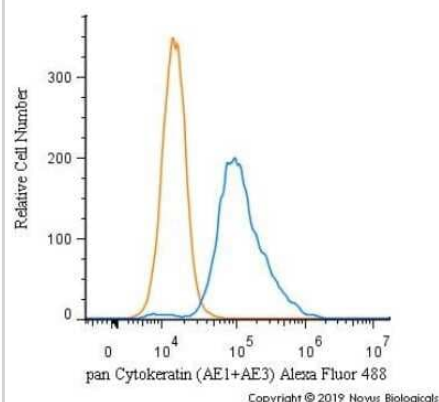
Human fibroblasts. Blue: fibroblasts. Red: fibroblast + cytokeratin transfection. CyTOF image submitted by a verified customer review.



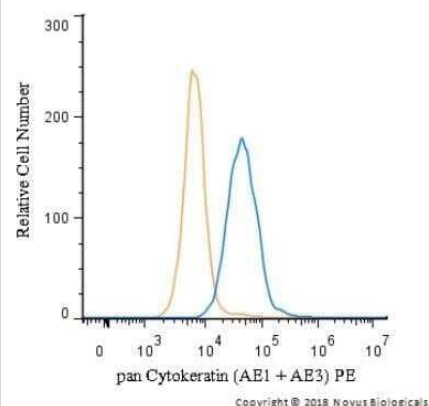
Flow Cytometry: Cytokeratin, pan Antibody (AE-1/AE-3) [NBP2-29429] - An intracellular stain was performed on HeLa cells with pan Cytokeratin Antibody (AE1 + AE3) NBP2-33200AF647 (blue) and a matched isotype control (orange). Cells were fixed with 4% PFA and then permeabilized with 0.1% saponin. Cells were incubated in an antibody dilution of 5 ug/mL for 30 minutes at room temperature. Both antibodies were conjugated to Alexa Fluor 647. Image from the AF647 version of this antibody.



Flow Cytometry: Cytokeratin, pan Antibody (AE-1/AE-3) [NBP2-29429] - An intracellular stain was performed on HeLa cells with pan Cytokeratin [AE1 + AE3] Antibody NBP2-33200AF488 (blue) and a matched isotype control (orange). Cells were fixed with 4% PFA and then permeabilized with 0.1% saponin. Cells were incubated in an antibody dilution of 5 ug/mL for 30 minutes at room temperature. Both antibodies were conjugated to Alexa Fluor 488. Image from the AF488 version of this antibody.



Flow Cytometry: Cytokeratin, pan Antibody (AE-1/AE-3) [NBP2-29429] - An intracellular stain was performed on HeLa cells with pan Cytokeratin Antibody (AE1 + AE3) NBP2-33200PE (blue) and a matched isotype control (orange). Cells were fixed with 4% PFA and then permeabilized with 0.1% saponin. Cells were incubated in an antibody dilution of 2.5 ug/mL for 30 minutes at room temperature. Both antibodies were conjugated to phycoerythrin. Image from the PE version of this antibody.



## Publications

Reed AD, Pensa S, Steif A et al. A single-cell atlas enables mapping of homeostatic cellular shifts in the adult human breast Nat Genet 2024-03-28 [PMID: 38548988]

Jones I, Novikova LN, Wiberg M et al. Human Embryonic Stem Cell-derived Neural Crest Cells Promote Sprouting and Motor Recovery Following Spinal Cord Injury in Adult Rats Cell Transplant 2021-01-31 [PMID: 33522309]

Yoon KA, Kim Y, Jung SY et al. Proteogenomic analysis dissects early-onset breast cancer patients with prognostic relevance Exp Mol Med 2024-11-01 [PMID: 39482530]

Colinot DL, Garbuz T, Bosland MC et al. The common parasite Toxoplasma gondii induces prostatic inflammation and microglandular hyperplasia in a mouse model. Prostate 2017-05-12 [PMID: 28497488]

Wei CH, Huang L, Kreh B et al. A novel retinoic acid receptor- $\gamma$  agonist antagonizes immune checkpoint resistance in lung cancers by altering the tumor immune microenvironment Sci Rep 2023-09-09 [PMID: 37689790]

Ying L, Zhang C, Reuben A et al. Immune-active tumor-adjacent tissues are associated with favorable prognosis in stage I lung squamous cell carcinoma iScience 2023-09-15 [PMID: 37694148]

Croft W, Pearce H, Margielewska-Davies S et al. Spatial determination and prognostic impact of the fibroblast transcriptome in pancreatic ductal adenocarcinoma eLife 2023-06-23 [PMID: 37350578] (Block/Neutralize)

Riedinger CJ, Esnakula A, Haight PJ et al. Characterization of mismatch-repair (MMR)/microsatellite instability (MSI)-discordant endometrial cancers Cancer 2023-09-26 [PMID: 37751191]

Gadwa J, Amann M, Bickett TE et al. Selective targeting of IL2R $\gamma$  combined with radiotherapy triggers CD8- and NK-mediated immunity, abrogating metastasis in HNSCC Cell Reports Medicine 2023-08-15 [PMID: 37586327] (Flow Cytometry)

Zhang Q, Abdo R, Iosef C et al. The spatial transcriptomic landscape of non-small cell lung cancer brain metastasis Nature Communications 2022-10-10 [PMID: 36216799]

Jannone G, Bonaccorsi Riani E, de Magnani C et al. Senescence and senotherapies in biliary atresia and biliary cirrhosis Aging (Albany NY) 2023-05-18 [PMID: 37204430]

Schmidt LB, Perez-Pacheco C, Bellile EL et al. Spatial and Transcriptomic Analysis of Perineural Invasion in Oral Cancer Clinical Cancer Research 2022-08-15 [PMID: 35819260]

More publications at <http://www.novusbio.com/NBP2-29429>



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### **Products Related to NBP2-29429**

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HAF007	Goat anti-Mouse IgG Secondary Antibody [HRP]
NB720-B	Rabbit anti-Mouse IgG (H+L) Secondary Antibody [Biotin]
DNST0	Endostatin [HRP]
MAB1455	Albumin Antibody (188835) [Unconjugated] - Serum

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### **Limitations**

This product is for research use only and is not approved for use in humans or in clinical diagnosis. Primary Antibodies are guaranteed for 1 year from date of receipt.

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