# Product Datasheet

## Cytokeratin 19 Antibody - BSA Free
## NB100-687

Unit Size: 0.1 ml

Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.



**Reviews: 1 Publications: 10**

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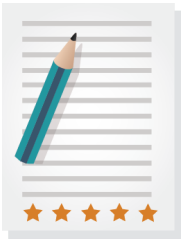
Updated 2/17/2025 v.20.1





# NB100-687

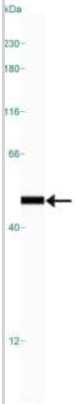
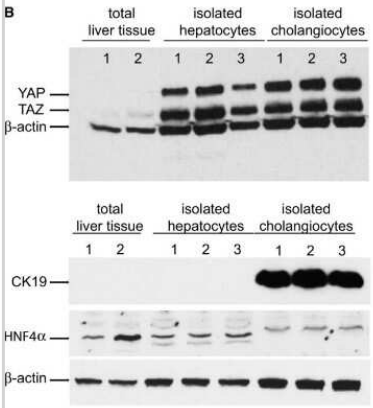
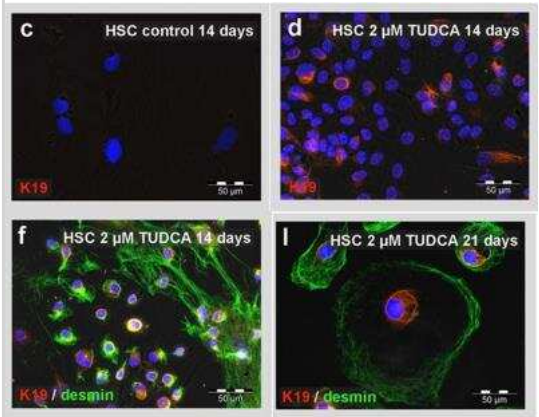
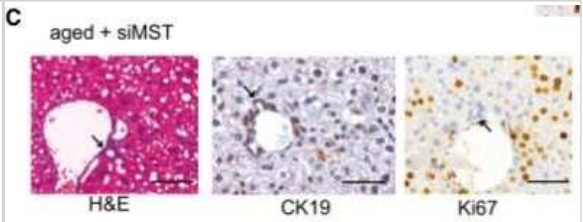
Cytokeratin 19 Antibody - BSA Free

| Product Information | |
|---|---|
| **Unit Size** | 0.1 ml |
| **Concentration** | 1.0 mg/ml |
| **Storage** | Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles. |
| **Clonality** | Polyclonal |
| **Preservative** | 0.05% Sodium Azide |
| **Isotype** | IgG |
| **Purity** | Immunogen affinity purified |
| **Buffer** | PBS and 30% Glycerol |

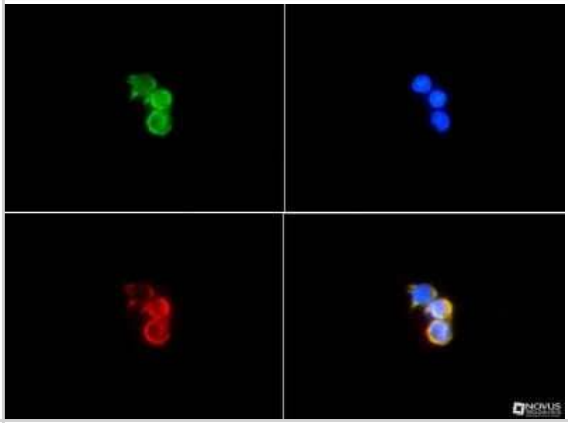
| Product Description | |
|---|---|
| **Host** | Rabbit |
| **Gene ID** | 3880 |
| **Gene Symbol** | KRT19 |
| **Species** | Human, Mouse, Rat |
| **Reactivity Notes** | Rat reactivity reported in scientific literature (PMID: 25401473) |
| **Marker** | Epithelial Cell Marker |
| **Immunogen** | Synthetic peptide derived from the C-terminal region of human Cytokeratin 19 (between residues 350-400) [UniProt P08727] |

| Product Application Details | |
|---|---|
| **Applications** | Western Blot, Simple Western, Flow Cytometry, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Paraffin |
| **Recommended Dilutions** | Western Blot 1:1000, Simple Western 1:1000, Flow Cytometry 2-5 ug/million cells, Immunohistochemistry 1:500, Immunocytochemistry/ Immunofluorescence 1:50-1:100, Immunohistochemistry-Paraffin 1:500 |
| **Application Notes** | This Cytokeratin 19 antibody is useful for Western Blot where a band is seen ~44 kDa, Immunocytochemistry/Immunofluorescence, and Immunohistochemistry-paraffin sections. Prior to immunostaining paraffin tissues, antigen retrieval with sodium citrate buffer (pH 6.0) is recommended.<br><br>In Simple Western only 10 - 15 uL of the recommended dilution is used per data point.<br>See Simple Western Antibody Database for Simple Western validation: Tested in HepG2 lysate 0.5 mg/mL, separated by Size, antibody dilution of 1:1000, apparent MW was 50 kDa. Separated by Size-Wes, Sally Sue/Peggy Sue. |

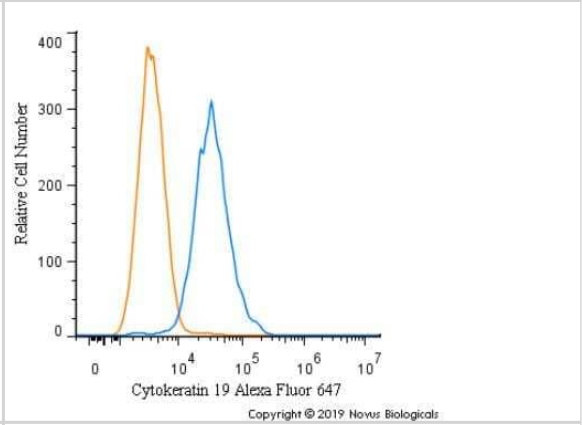
## Images

| | |
|---|---|
| Simple Western: Cytokeratin 19 Antibody [NB100-687] - Lane view shows a specific band for Cytokeratin 19 in 0.5 mg/ml of HepG2 lysate. This experiment was performed under standard reducing conditions using the 12-230 kDa separation system. |   |
| Western Blot: Cytokeratin 19 Antibody [NB100-687] - Western blot detection of YAP and TAZ in proteins extracted from isolated hepatocytes and cholangiocytes and total liver tissue. Antibodies against CK19 and HNF4a were used to confirm purity of the populations and b-actin was used as a loading control. Representative results from a single experiment with n = 3 independent cell isolations and n = 2 total liver tissues. Image collected and cropped by CiteAb from the following publication (https://embomolmed.embopress.org/lookup/doi/10.15252/emmm.201506089), licensed under a CC-BY license. |   |
| Immunocytochemistry/Immunofluorescence: Cytokeratin 19 Antibody [NB100-687] - TUDCA induces intermediate states of mesenchymal and epithelial cells in primary cultures of rat HSC during hepatic differentiation. Under control conditions HSC remained negative for K19 (Cytokeratin 19) expression, (d) but this epithelial marker protein was induced in HSC cultures after treatment with 2 uM TUDCA for 14 days (red). (f) K19 was found to be co-expressed with desmin (green), which indicated the origin of epithelial progenitor cells from HSC. (I) Cells with different states of maturation were still found after 21 days of TUDCA treatment. Image collected and cropped by CiteAb from the following publication (https://www.nature.com/articles/srep13320), licensed under a CC-BY license. |   |
| Immunohistochemistry: Cytokeratin 19 Antibody [NB100-687] - Inhibition of MST improves liver regeneration in aged mice. Representative photomicrograph of an aged liver treated with siMST and stained with H&E and by IHC for CK19 and Ki67. Arrows indicate ductal regions with no signs of reaction or oval cell expansion. Image collected and cropped by CiteAb from the following publication (https://embomolmed.embopress.org/lookup/doi/10.15252/emmm.201506089), licensed under a CC-BY license. |   |

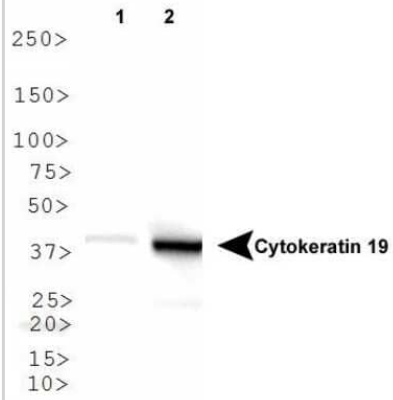
Immunocytochemistry/Immunofluorescence: Cytokeratin 19 Antibody [NB100-687] - Analysis of Cytokeratin 19 in MCF7 cells using Cytokeratin 19 antibody (green). Nuclei and alpha-tubulin were counterstained with DAPI (blue) and DyLight 550 (red).



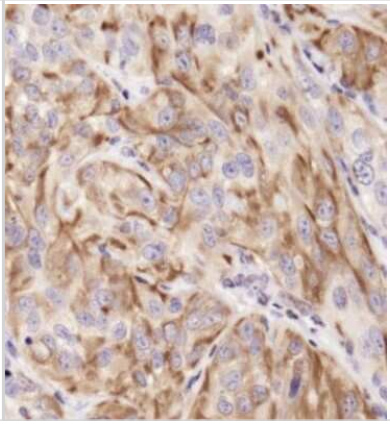
Flow Cytometry: Cytokeratin 19 Antibody [NB100-687] - An intracellular stain was performed on MCF7 cells with Cytokeratin 19 Antibody NB100-687AF647 (blue) and a matched isotype control (orange). Cells were fixed with 4% PFA and then permeabilized with 0.1% saponin. Cells were incubated in an antibody dilution of 2.5 ug/mL for 30 minutes at room temperature. Both antibodies were conjugated to Alexa Fluor 647.



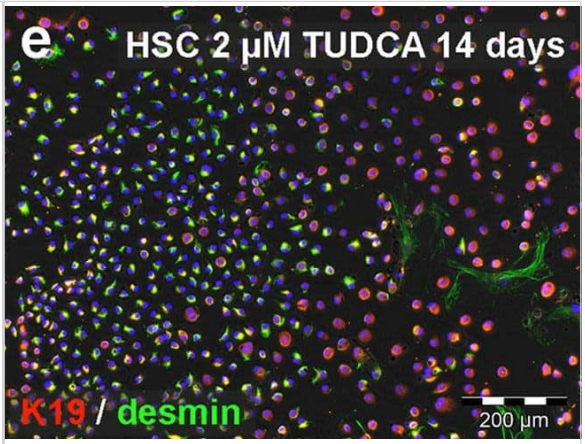

Western Blot: Cytokeratin 19 Antibody [NB100-687] - Analysis of Cytokeratin 19 in 1) HepG2 and 2) MCF7 lysates.



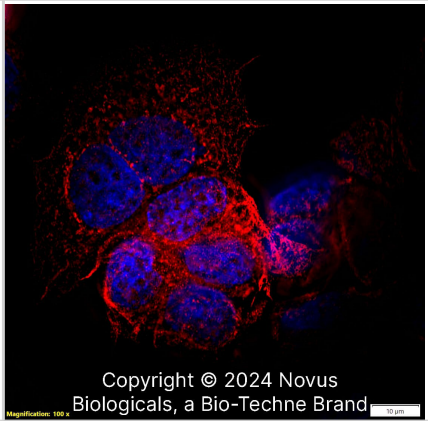

Immunohistochemistry: Cytokeratin 19 Antibody [NB100-687] - Staining of Cytokeratin 19 in human kidney carcinoma using DAB with hematoxylin counterstain.



Immunocytochemistry/ Immunofluorescence: Cytokeratin 19 Antibody - BSA Free [NB100-687] - TUDCA induces intermediate states of mesenchymal & epithelial cells in primary cultures of rat HSC during hepatic differentiation.Freshly isolated rat HSC (a) exhibited typical lipid droplets that contained retinoids & (b) expressed the mesenchymal filament proteins vimentin (red) & desmin (green) as investigated by immunofluorescence. (c) Under control conditions HSC remained negative for K19 expression, (d) but this epithelial marker protein was induced in HSC cultures after treatment with 2 µM TUDCA for 14 days (red). (e–g) K19 was found to be co-expressed with desmin & vimentin (green), which indicated the origin of epithelial progenitor cells from HSC. (h–k) Also K18, Afp & Mrp2 (red), which served as markers for hepatic differentiation, were co-expressed with vimentin & desmin (green) after 21 days of TUDCA treatment. Cells with different states of maturation were still found after 21 days of TUDCA treatment. Some cells developed into hepatocyte-like cells with (j) dominant K18 filaments (white arrows) while others remained immature with persisting desmin (red arrow) or (l) K19 protein residues. Image collected & cropped by CiteAb from the following publication (https://www.nature.com/articles/srep13320), licensed under a CC-BY license. Not internally tested by Novus Biologicals.




Cytokeratin 19 was detected in immersion fixed MCF7 human breast cancer cell line using Rabbit anti-Cytokeratin 19 Antigen Affinity Purified Polyclonal Antibody conjugated to Biotin (Catalog # NB100-687B) at 5 µg/mL overnight at 4C. Cells were stained using Streptavidin conjugated to DyLight 550 (red) and counterstained with DAPI (blue). Cells were imaged using a 100X objective and digitally deconvolved.



## Publications


Natalia Lugli, Irene Kamileri, Adrian Keogh, Thomas Malinka, Michalis E Sarris, Iannis Talianidis, Olivier Schaad, Daniel Candinas, Deborah Stroka, Thanos D Halazonetis R□spondin 1 and noggin facilitate expansion of resident stem cells from non□damaged gallbladders EMBO Reports 2016-03-18 [PMID: 26993089]

Serra M, Pal R, Puliga E et al. mRNA-miRNA networks identify metabolic pathways associated to the anti-tumorigenic effect of thyroid hormone on preneoplastic nodules and hepatocellular carcinoma Frontiers in Oncology 2022-09-20 [PMID: 36203462] (Immunohistochemistry-Paraffin, Immunohistochemistry-Frozen)

Zhang C, Zhong L, Lau Y et al. Single Cell RNA Sequencing Reveals Emergent Notochord-Derived Cell Subpopulations in the Postnatal Nucleus Pulposus bioRxiv 2023-05-23 [PMID: 37292597] (IHC-Fr, Mouse)

Barthet VJA, Brucoli M, Ladds MJGW et al. Autophagy suppresses the formation of hepatocyte-derived cancer-initiating ductular progenitor cells in the liver Science advances 2021-06-01 [PMID: 34088666] (IHC-P, Mouse)

OrrU C, Perra A, Kowalik MA et al. Distinct Mechanisms Are Responsible for Nrf2-Keap1 Pathway Activation at Different Stages of Rat Hepatocarcinogenesis Cancers (Basel) 2020-08-16 [PMID: 32824383] (IF/IHC, Rat)

Kim N, Kim HK, Lee K et al. Single-cell RNA sequencing demonstrates the molecular and cellular reprogramming of metastatic lung adenocarcinoma Nat Commun 2020-05-08 [PMID: 32385277] (IHC-P, Human)

Loforese G, Malinka T, Keogh A et al. Impaired liver regeneration in aged mice can be rescued by silencing Hippo core kinases MST1 and MST2. EMBO Mol Med. 2016-12-09 [PMID: 27940445] (ICC/IF, WB, Mouse)

Sawitza I, Kordes C, Gotze S et al. Bile acids induce hepatic differentiation of mesenchymal stem cells. Sci Rep 2015-08-25 [PMID: 26304833] (ICC/IF, Rat)

Kordes C, Sawitza I, Gotze S et al. Hepatic stellate cells contribute to progenitor cells and liver regeneration. J. Clin. Invest. 2014-12-01 [PMID: 25401473] (IF/IHC, Rat)

Takeda K, Kojima Y, Ikejima K et al. Death receptor 5 mediated-apoptosis contributes to cholestatic liver disease. PNAS;105(31):10895-10900. 2008-01-01 [PMID: 18667695] (IF/IHC, Mouse)

## Procedures

**Western Blot protocol for Cytokeratin 19 Antibody (NB100-687)**

1. Perform SDS-PAGE on samples to be analyzed, loading 40 ug of total protein per lane.
2. Transfer proteins to membrane according to the instructions provided by the manufacturer of the membrane and transfer apparatus.
3. Stain according to standard Ponceau S procedure (or similar product) to assess transfer success, and mark molecular weight standards where appropriate.
4. Rinse the blot.
5. Block the membrane using standard blocking buffer for at least 1 hour.
6. Wash the membrane in wash buffer three times for 10 minutes each.
7. Dilute primary antibody in blocking buffer and incubate 1 hour at room temperature.
8. Wash the membrane in wash buffer three times for 10 minutes each.
9. Apply the diluted HRP conjugated secondary antibody in blocking buffer (as per manufacturers instructions) and incubate 1 hour at room temperature.
10. Wash the blot in wash buffer three times for 10 minutes each (this step can be repeated as required to reduce background).
11. Apply the detection reagent of choice in accordance with the manufacturers instructions.

**Note: Tween-20 can be added to the blocking or antibody dilution buffer at a final concentration of 0.05-0.2%.

*The above information is only intended as a guide. The researcher should determine what protocol best meets their needs. Please follow safe laboratory procedures.

**Immunohistochemistry-Paraffin protocol for Cytokeratin 19 Antibody (NB100-687)**

Antigen Unmasking:
Bring slides to a boil in 10 mM sodium citrate buffer (pH 6.0) then maintain at a sub-boiling temperature for 10 minutes. Cool slides on bench-top for 30 minutes.

Staining:
1. Wash sections in deionized water three times for 5 minutes each.
2. Wash sections in wash buffer for 5 minutes.
3. Block each section with 100-400 ul blocking solution for 1 hour at room temperature.
4. Remove blocking solution and add 100-400 ul diluted primary antibody. Incubate overnight at 4C.
5. Remove antibody solution and wash sections in wash buffer three times for 5 minutes each.
6. Add 100-400 ul biotinylated diluted secondary antibody. Incubate 30 minutes at room temperature.
7. Remove secondary antibody solution and wash sections three times with wash buffer for 5 minutes each.
8. Add 100-400 ul Streptavidin-HRP reagent to each section and incubate for 30 minutes at room temperature.
9. Wash sections three times in wash buffer for 5 minutes each.
10. Add 100-400 ul DAB substrate to each section and monitor staining closely.
11. As soon as the sections develop, immerse slides in deionized water.
12. Counterstain sections in hematoxylin.
13. Wash sections in deionized water two times for 5 minutes each.
14. Dehydrate sections.
15. Mount coverslips.

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**Immunocytochemistry/Immunofluorescence protocol for Cytokeratin 19 Antibody (NB100-687)**

Culture cells to appropriate density in 35 mm culture dishes or 6-well plates.

1. Remove culture medium and add 10% formalin to the dish. Fix at room temperature for 30 minutes.
2. Remove the formalin and add ice cold methanol. Incubate for 5-10 minutes.
3. Remove methanol and add washing solution (i.e. PBS). Be sure to not let the specimen dry out. Wash three times for 10 minutes.
4. To block nonspecific antibody binding incubate in 10% normal goat serum from 1 hour to overnight at room temperature.
5. Add primary antibody at appropriate dilution and incubate at room temperature from 2 hours to overnight at room temperature.
6. Remove primary antibody and replace with washing solution. Wash three times for 10 minutes.
7. Add secondary antibody at appropriate dilution. Incubate for 1 hour at room temperature.
8. Remove antibody and replace with wash solution, then wash for 10 minutes. Add Hoechst 33258 to wash solution at 1:25,0000 and incubate for 10 minutes. Wash a third time for 10 minutes.
9. Cells can be viewed directly after washing. The plates can also be stored in PBS containing Azide covered in Parafilm (TM). Cells can also be cover-slipped using Fluoromount, with appropriate sealing.

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## Products Related to NB100-687

| | |
|---|---|
| HAF008 | Goat anti-Rabbit IgG Secondary Antibody [HRP] |
| NB7160 | Goat anti-Rabbit IgG (H+L) Secondary Antibody [HRP] |
| NBP2-24891 | Rabbit IgG Isotype Control |
| NB100-687B | Cytokeratin 19 Antibody [Biotin] |

**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.

**For more information on our 100% guarantee, please visit www.novusbio.com/guarantee**

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