

# Product Datasheet

## CLCN3 Antibody - BSA Free

### NBP1-91790

Unit Size: 0.1 ml

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

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**NBP1-91790**

CLCN3 Antibody - BSA Free

**Product Information**

|                      |                                                                                                                  |
|----------------------|------------------------------------------------------------------------------------------------------------------|
| <b>Unit Size</b>     | 0.1 ml                                                                                                           |
| <b>Concentration</b> | Concentrations vary lot to lot. See vial label for concentration. If unlisted please contact technical services. |
| <b>Storage</b>       | Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.                           |
| <b>Clonality</b>     | Polyclonal                                                                                                       |
| <b>Preservative</b>  | 0.02% Sodium Azide                                                                                               |
| <b>Isotype</b>       | IgG                                                                                                              |
| <b>Purity</b>        | Affinity purified                                                                                                |
| <b>Buffer</b>        | PBS (pH 7.2) and 40% Glycerol                                                                                    |

**Product Description**

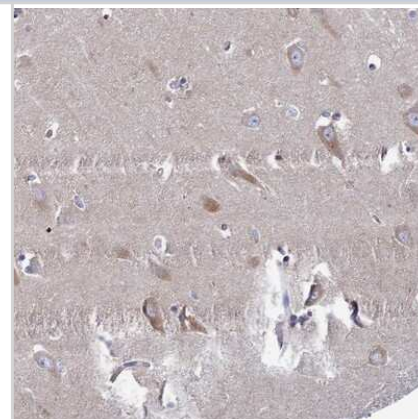
|                    |                                                                                                                                                                                                                                                |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b> | Novus Biologicals Rabbit CLCN3 Antibody - BSA Free (NBP1-91790) is a polyclonal antibody validated for use in IHC, WB and IP. Anti-CLCN3 Antibody: Cited in 1 publication. All Novus Biologicals antibodies are covered by our 100% guarantee. |
| <b>Host</b>        | Rabbit                                                                                                                                                                                                                                         |
| <b>Gene ID</b>     | 1182                                                                                                                                                                                                                                           |
| <b>Gene Symbol</b> | CLCN3                                                                                                                                                                                                                                          |
| <b>Species</b>     | Human, Mouse, Rat                                                                                                                                                                                                                              |
| <b>Immunogen</b>   | This antibody was developed against Recombinant Protein corresponding to amino acids:<br>NSITSASSDEELLDGAGVIMDFQTSEDDNLLDGDGTAVGTHYTMNGGSINSSTH<br>LLDLLDEP                                                                                    |

**Product Application Details**

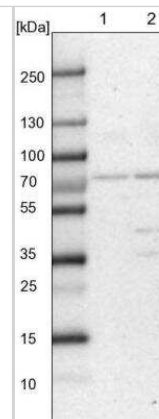
|                              |                                                                                                                |
|------------------------------|----------------------------------------------------------------------------------------------------------------|
| <b>Applications</b>          | Western Blot, Immunohistochemistry-Paraffin, Immunohistochemistry                                              |
| <b>Recommended Dilutions</b> | Western Blot 0.04-0.4 ug/ml, Immunohistochemistry 1:500 - 1:1000, Immunohistochemistry-Paraffin 1:500 - 1:1000 |
| <b>Application Notes</b>     | For IHC-Paraffin, HIER pH 6 retrieval is recommended.                                                          |

**Images**

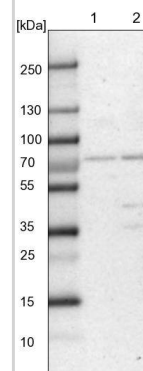
Immunohistochemistry-Paraffin: CLCN3 Antibody [NBP1-91790] - Staining of human hippocampus shows moderate cytoplasmic positivity in neuronal cells.



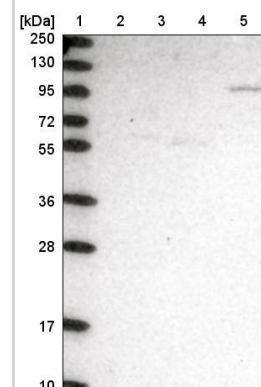
Western Blot: CLCN3 Antibody [NBP1-91790] - Lane 1: Mouse liver tissue lysate Lane 2: Rat liver tissue lysate. Recommended dilution: 1:250 - 1:500



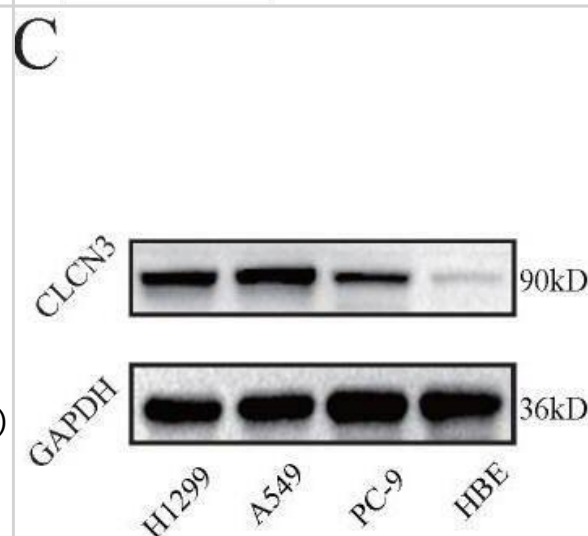
Lane 1: Mouse liver tissue lysate  
Lane 2: Rat liver tissue lysate



Lane 1: Marker [kDa] 250, 130, 95, 72, 55, 36, 28, 17, 10  
Lane 2: Human cell line RT-4  
Lane 3: Human cell line U-251MG sp  
Lane 4: Human plasma (IgG/HSA depleted)  
Lane 5: Human liver tissue



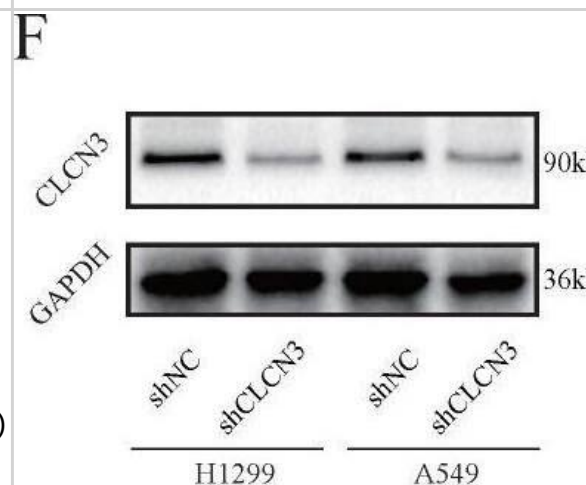
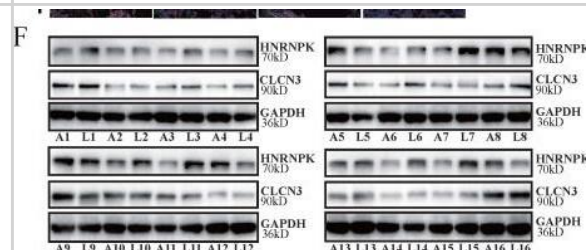
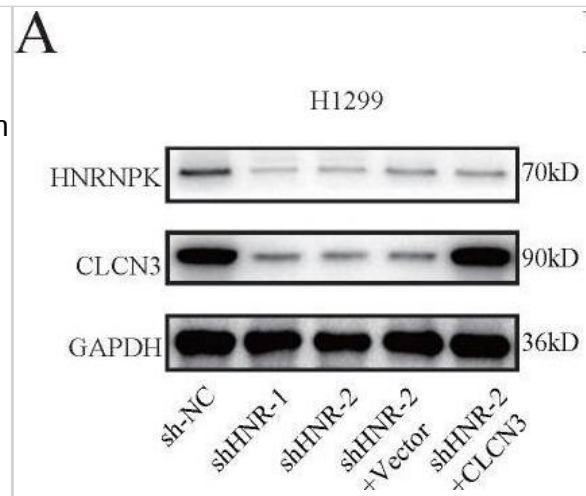
CLCN3 was upregulated in human LUAD and facilitated tumor proliferation and migration. (a, b) Through IHC and IF analysis, the expression of CLCN3 was examined in a tissue microarray of 30 paraffin-embedded LUAD tissues and adjacent normal tissues (ANT) (n = 30). (c, d) In human LUAD cell lines as well as in human bronchial epithelial cell lines, the basic protein expression of CLCN3 was measured (n = 3). (e) The basic RNA level of CLCN3 was detected in human LUAD cell lines and a human bronchial epithelial cell line (n = 3). (f) The protein expression of CLCN3 was inhibited after CLCN3 knockdown in H1299 and A549 cells. (g) RNA-seq was constructed after CLCN3 knockdown in H1299 cells. Locomotion and growth were significantly enriched as illustrated by GO analysis. (h) Knockdown of CLCN3 suppressed the clonogenicity of H1299 and A549 cells (n = 3). (i) CLCN3 knockdown suppressed the invasion of H1299 and A549 cells (n = 3). \*P < 0.05. Image collected and cropped by CiteAb from the following open publication (<https://pubmed.ncbi.nlm.nih.gov/36439880>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



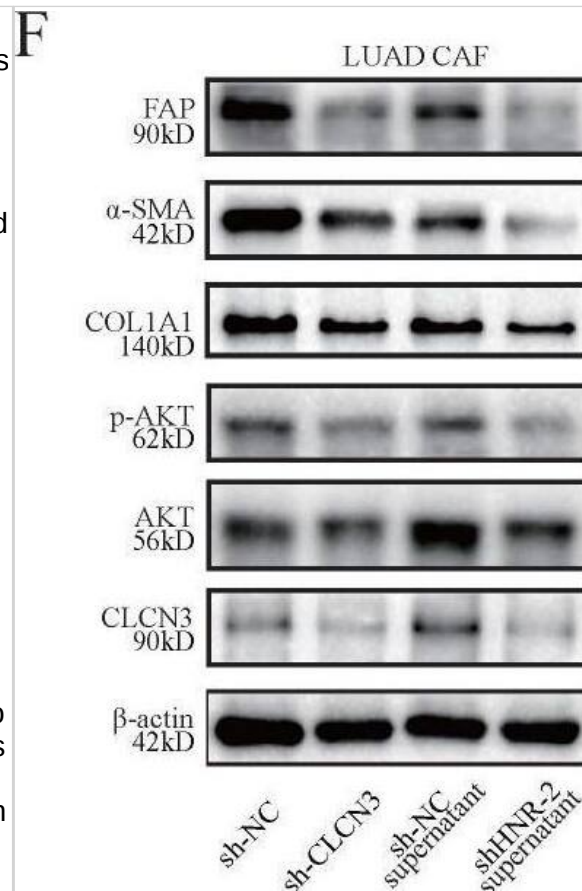
HNRNPK knockdown inhibited the expression and function of CLCN3 in vitro. (a) The expression of CLCN3 was inhibited after HNRNPK knockdown but this inhibition was abrogated by CLCN3 upregulation. (b) Following HNRNPK knockdown, there was a decrease in the proliferation of LUAD cells, however, this decrease was restored by the upregulation of CLCN3 ( $n = 3$ ). (c) The representative cell images showed that HNRNPK knockdown inhibited the cell proliferation at 24 h and was rescued by CLCN3 overexpression. (d) Cell clonogenicity was alleviated as a result of HNRNPK knockdown, and this reduction was restored by the upregulation of CLCN3 ( $n = 3$ ). (e) The cell invasion was suppressed following HNRNPK knockdown, and this inhibition was rescued by CLCN3 upregulation ( $n = 3$ ). \* $P < 0.05$ . Image collected and cropped by CiteAb from the following open publication (<https://pubmed.ncbi.nlm.nih.gov/36439880>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.

CLCN3 and HNRNPK were upregulated in LUAD and correlated with poor prognosis. (a, b) In paraffin-embedded LUAD tissue microarray, we discovered that the expression of CLCN3 and HNRNPK was elevated in LUAD tissues compared with ANT ( $n = 30$ ). (c) The CLCN3 expression positively correlated with HNRNPK expression in LUAD tissues. (d) Using IF staining of LUAD tissue microarray, we found that both CLCN3 and HNRNPK were highly expressed in LUAD tissues ( $n = 30$ ). (e) The Kaplan-Meier survival analysis illustrated that elevated CLCN3 or HNRNPK expression levels in tumors predicted a dismal prognosis for LUAD patients. In the HPA database, the data also suggested that the patients having an elevated expression of CLCN3 or HNRNPK exhibited a shorter overall survival. (f) LUAD and adjacent normal tissues were collected (16 cases), and the increased expression of CLCN3 or HNRNPK was confirmed in LUAD tissues ( $n = 16$ ). (g) Correlation analysis indicated a positive expression correlation between CLCN3 and HNRNPK in 16 cases of LUAD tissues. \* $P < 0.05$ . Image collected and cropped by CiteAb from the following open publication (<https://pubmed.ncbi.nlm.nih.gov/36439880>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.

CLCN3 was upregulated in human LUAD and facilitated tumor proliferation and migration. (a, b) Through IHC and IF analysis, the expression of CLCN3 was examined in a tissue microarray of 30 paraffin-embedded LUAD tissues and adjacent normal tissues (ANT) ( $n = 30$ ). (c, d) In human LUAD cell lines as well as in human bronchial epithelial cell lines, the basic protein expression of CLCN3 was measured ( $n = 3$ ). (e) The basic RNA level of CLCN3 was detected in human LUAD cell lines and a human bronchial epithelial cell line ( $n = 3$ ). (f) The protein expression of CLCN3 was inhibited after CLCN3 knockdown in H1299 and A549 cells. (g) RNA-seq was constructed after CLCN3 knockdown in H1299 cells. Locomotion and growth were significantly enriched as illustrated by GO analysis. (h) Knockdown of CLCN3 suppressed the clonogenicity of H1299 and A549 cells ( $n = 3$ ). (i) CLCN3 knockdown suppressed the invasion of H1299 and A549 cells ( $n = 3$ ). \* $P < 0.05$ . Image collected and cropped by CiteAb from the following open publication (<https://pubmed.ncbi.nlm.nih.gov/36439880>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



HNRNPK/CLCN3 axis facilitated LUAD progression through interaction between tumor cells and CAFs. (a) Primary human CAFs and paired NFs were extracted from fresh LUAD samples. The expression of CAF markers was increased in CAFs compared to NFs, which was in accord with the typical characteristic of CAFs. (b) The levels of CLCN3 were detected in the culture supernatants of LUAD cells, and the data indicated that decreased extracellular CLCN3 secretion could be induced by HNRNPK knockdown. (c-e) The supernatants (HNRNPK knockdown and control) of LUAD cells were incubated with CAFs for 24 h. We confirmed that the PI3K-AKT signaling pathway was significantly enriched in CAFs. (f) The levels of p-AKT,  $\alpha$ -SMA, FAP, and COL1A1 were decreased when CAFs were stimulated with the supernatants of HNRNPK-knockdown cells. After CLCN3 knockdown in CAFs, the levels of p-AKT,  $\alpha$ -SMA, FAP, and COL1A1 were also effectively inhibited. (g) Due to the activation inhibition, the CAFs co-cultured with HNRNPK-knockdown LUAD cells were then considered as inhibited CAFs. The analysis by ELISA revealed that the TGF- $\beta$ 1 production of inhibited CAFs was significantly decreased ( $n = 7$ ). (h) The supernatants of inhibited CAFs attenuated the expression of HNRNPK protein in the H1299 nucleus, and the attenuation effect was reversed after TGF- $\beta$ 1 treatment. (i) The supernatants of inhibited CAFs attenuated the fluorescence intensity of HNRNPK in the H1299 nucleus, which was also reversed after the addition of exogenous TGF- $\beta$ 1. (j, k) The supernatants of inhibited CAFs markedly attenuated the clonogenicity and invasion of LUAD cells, and this phenomenon was further reversed after the addition of TGF- $\beta$ 1 ( $n = 3$ ). \* $P < 0.05$ . Image collected and cropped by CiteAb from the following open publication (<https://pubmed.ncbi.nlm.nih.gov/36439880>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



## Publications

Li Y, Yang Y, Ma Q et al. HNRNPK/CLCN3 axis facilitates the progression of LUAD through CAF-tumor interaction International Journal of Biological Sciences 2022-10-18 [PMID: 36439880] (IP, WB, Human)



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### **Products Related to NBP1-91790**

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|               |                                                     |
|---------------|-----------------------------------------------------|
| NBP1-91790PEP | CLCN3 Recombinant Protein Antigen                   |
| NBP2-33376H   | Blue Marker Antibody (6F4-F6) [HRP]                 |
| HAF008        | Goat anti-Rabbit IgG Secondary Antibody [HRP]       |
| NB7160        | Goat anti-Rabbit IgG (H+L) Secondary Antibody [HRP] |
| NBP2-24891    | Rabbit IgG Isotype Control                          |

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### **Limitations**

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