Product Datasheet

beta-Defensin 3 Antibody - BSA Free
NB200-117

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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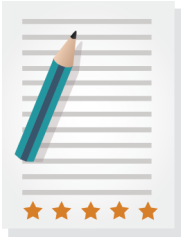
Updated 10/23/2024 v.20.1



NB200-117

beta-Defensin 3 Antibody - BSA Free

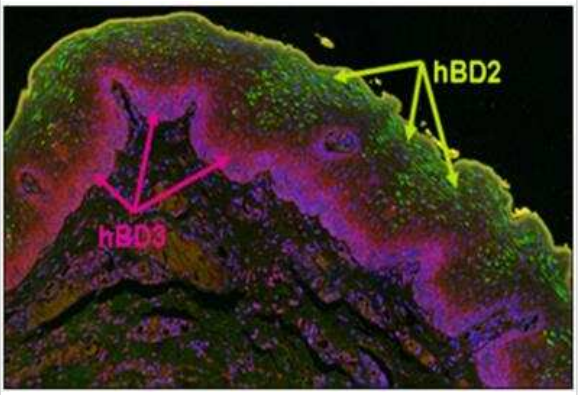
Product Information	
Unit Size	0.1 ml
Concentration	1 mg/ml
Storage	Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.
Clonality	Polyclonal
Preservative	0.02% Sodium Azide
Isotype	IgG
Purity	Immunogen affinity purified
Buffer	PBS
Target Molecular Weight	7.7 kDa

Product Description	
Host	Rabbit
Gene ID	55894
Gene Symbol	DEFB103B
Species	Human, Rat
Reactivity Notes	Human and rat reactivity reported in (PMID: 21369366).
Immunogen	A synthetic peptide made to an internal portion of Defensin beta 3 (between amino acids 10-60) [UniProt P81534]

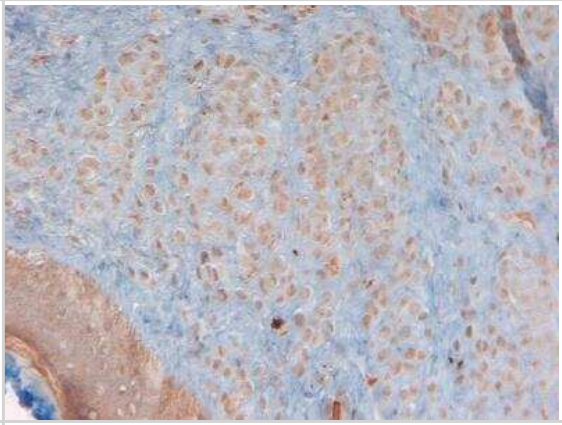
Product Application Details	
Applications	Western Blot, ELISA, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Frozen, Immunohistochemistry-Paraffin
Recommended Dilutions	Western Blot 1:500-1:1000, ELISA 1:100-1:2000, Immunohistochemistry 1:10-1:500, Immunocytochemistry/ Immunofluorescence reported in scientific literature, Immunohistochemistry-Paraffin 1:10-1:500, Immunohistochemistry-Frozen 1:10-1:500

Images

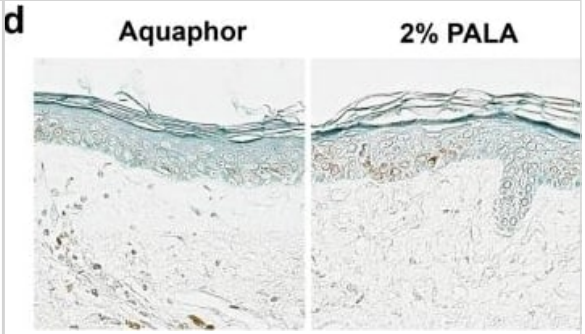
Immunohistochemistry-Paraffin: beta-Defensin 3 Antibody [NB200-117] - Distribution of hBD-2 and hBD-3 in normal oral epithelium. Formalin fixed and parafilm embedded normal human oral tissue was labeled with an anti-hBD-2 specific primary antibody, and detected with an AF488 conjugated secondary antibody. hBD-3 was labeled with a rabbit anti-hBD-3 (Novus Biologicals Inc., Littleton, CO, USA), specific primary antibody and detected using an AF594 (purple) conjugated donkey anti-rabbit (Invitrogen). Note green fluorescence detection of hBD-2 localized to the stratum spinosum and stratum granulosum, while pink/red fluorescence detects hBD-3 exclusively to the stratum basale. hBD-1, not shown, is localized to the same regions as hBD-2. Image collected and cropped by CiteAb from the following publication (https://journal.frontiersin.org/article/10.3389/fimmu.2012.00294/abstract) licensed under a CC-BY license.



Immunohistochemistry-Paraffin: beta-Defensin 3 Antibody [NB200-117] - Analysis of beta-Defensin 3 in human skin.



Immunohistochemistry: beta-Defensin 3 Antibody - BSA Free [NB200-117] - Topical application of PALA enhances AMP production in human skin explants. (a) HBD2 protein levels are increased in tissue homogenates of infected human skin explants by PALA or Neosporin treatment. Human skin biopsies were infected with MRSA for 1 h & then treated with the indicated ointments for 24 hours in triplicate. HBD2 levels were measured in tissue homogenates by ELISA (n = 3–4 donors). Mean ± SD; significance determined by 1-way ANOVA & Bonferroni multiple comparison test; *p < 0.05. (b) Immunohistochemistry staining of HBD2 in MRSA infected human skin explants described in (a). Representative image of 3 donors. (c) HBD3 protein levels in tissue homogenates of infected human skin explants are unaffected by PALA or Neosporin treatment. HBD3 levels were measured in tissue homogenates described in (a) by ELISA (n = 4 donors). Mean ± SD; significance determined by 1-way ANOVA & Bonferroni multiple comparison test; p > 0.05. (d) Immunohistochemistry staining of HBD3 in MRSA infected human skin explants described in (a). Representative image of 4 donors. (e) LL-37 protein levels are increased in tissue homogenates of infected human skin explants by PALA treatment. LL-37 levels were measured in tissue homogenates described in (a) by ELISA (n = 4–5 donors). Mean ± SD; significance determined by 1-way ANOVA & Bonferroni multiple comparison test; *p < 0.05. (f) Immunohistochemistry staining of LL-37 in MRSA infected human skin explants described in (a). Representative image of 6 donors. Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/29880914), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Publications

Jatana S, Homer CR, Madajka M et al. Pyrimidine synthesis inhibition enhances cutaneous defenses against antibiotic resistant bacteria through activation of NOD2 signaling Sci Rep 2018-06-07 [PMID: 29880914]

A Lebeau, D Bruyere, P Roncarati, P Peixoto, E Hervouet, G Cobraivill, B Taminiau, M Masson, C Gallego, G Mazzucchel, N Smargiasso, M Fleron, D Baiwir, E Hendrick, C Pilard, T Lerho, C Reynders, M Ancion, R Greimers, JC Twizere, G Daube, G Schlecht-L, F Bachelerie, JD Combes, P Melin, M Fillet, P Delvenne, P Hubert, M Herfs HPV infection alters vaginal microbiome through down-regulating host mucosal innate peptides used by Lactobacilli as amino acid sources Nature Communications, 2022-02-28;13(1):1076. 2022-02-28 [PMID: 35228537]

Wang Li, Wei X, Duan C et al. Bone marrow mesenchymal stem cell sheets with high expression of hBD3 and CTGF promote periodontal regeneration Biomater Adv 2022-02-01 [PMID: 35034825] (ICC/IF, WB, Human)

Panigrahi S, Ghosh SK, Ferrari B et al. Human beta-Defensin-3 is Associated With Platelet-Derived Extracellular Vesicles and is a Potential Contributor to Endothelial Dysfunction Frontiers in molecular biosciences 2022-03-09 [PMID: 35355507] (ICC/IF, Human)

Tantengco OAG, Kechichian T, Vincent KL Et al. Inflammatory Response Elicited by Ureaplasma parvum colonization in human cervical epithelial, stromal, and immune cells Reproduction (Cambridge, England) 2021-11-01 [PMID: 34780348] (WB, Human)

Aono S, Dennis JC, He S et al. Exploring Pleiotropic Functions of Canine beta-Defensin 103: Nasal Cavity Expression, Antimicrobial Activity, and Melanocortin Receptor Activity Anat Rec (Hoboken) 2019-11-12 [PMID: 31714028]

Meisch Jeffrey P, Nishimura Michiko, Vogel Ryan M et al. Human b-defensin 3 peptide is increased and redistributed in Crohn's ileitis. Inflamm Bowel Dis 2013-01-01 [PMID: 23511030] (IF/IHC, Human)

Karadag R, Bayram N, Oguztuzun S et al. An investigation of human beta-defensins and cathelicidin expression in patients with pterygium Arq Bras Oftalmol. 2017-01-01 [PMID: 29160535] (Human)

DasGupta T, Nweze EI, Yue H et al. Human papillomavirus oncogenic E6 protein regulates human beta-defensin 3 (hBD3) expression via the tumor suppressor protein p53. Oncotarget. 2016-05-10 [PMID: 27034006] (Human)

Koerdt S, Steinstraesser L, Stoeckelhuber M. Radiotherapy for oral cancer decreases the cutaneous expression of host defence peptides. J Craniomaxillofac Surg. 2016-04-22 [PMID: 27193476] (IHC-P, Human)

Jeong KY, Kim HM. Neonatal capsaicin treatment in rats induces chronic hyperthermia resulting in infectious disease. EXPERIMENTAL AND THERAPEUTIC MEDICINE. 2015-09-01 [PMID: 26668650] (WB, Rat)

Qian YJ, Wang X, Gao YF et al. Cigarette Smoke Modulates NOD1 Signal Pathway and Human B Defensins Expression in Human Oral Mucosa. Cell. Physiol. Biochem. 2015-05-29 [PMID: 25968832] (IHC-P, ICC/IF, Human)

More publications at http://www.novusbio.com/NB200-117

Procedures

Western Blot Protocol for Defensin beta 3 Antibody (NB200-117)

Western Blot Protocol
1. Perform SDS-PAGE (4-12% MOPS) on samples to be analyzed, loading 40 ug of total protein per lane.
2. Transfer proteins to Nitrocellulose according to the instructions provided by the manufacturer of the transfer apparatus.
3. Rinse membrane with dH2O and then stain the blot using Ponceau S for 1-2 minutes to access the transfer of proteins onto the nitrocellulose membrane. Rinse the blot in water to remove excess stain and mark the lane locations and locations of molecular weight markers using a pencil.
4. Rinse the blot in TBS for approximately 5 minutes.
5. Block the membrane using 5% NFDM + 1% BSA in TBS + Tween, 1 hour at RT.
6. Rinse the membrane in dH2O and then wash the membrane in wash buffer [TBS + 0.1% Tween] 3 times for 10 minutes each.
7. Dilute the rabbit anti-Defensin beta 3 primary antibody (NB200-117) in blocking buffer and incubate 1 hour at room temperature.
8. Rinse the membrane in dH2O and then wash the membrane in wash buffer [TBS + 0.1% Tween] 3 times for 10 minutes each.
9. Apply the diluted rabbit-IgG 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 [TBS + 0.1% Tween] 3 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 (Pierce ECL).
Note: Tween-20 can be added to the blocking or antibody dilution buffer at a final concentration of 0.05-0.2%, provided it does not interfere with antibody-antigen binding.

Immunohistochemistry-Paraffin Protocol for Defensin beta 3 Antibody (NB200-117)

Immunohistochemistry-Paraffin Embedded Sections

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 4 C.
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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Products Related to NB200-117

HAF008	Goat anti-Rabbit IgG Secondary Antibody [HRP]
NB7160	Goat anti-Rabbit IgG (H+L) Secondary Antibody [HRP]
NBP2-24891	Rabbit IgG Isotype Control
NBP2-35146-5ug	Recombinant Mouse beta-Defensin 3 Protein

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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