

Product Datasheet

NUAK2 Antibody - BSA Free

NBP1-81880

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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NBP1-81880

NUAK2 Antibody - BSA Free

Product Information

Unit Size	0.1 ml
Concentration	Concentrations vary lot to lot. See vial label for concentration. If unlisted please contact technical services.
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 (pH 7.2) and 40% Glycerol

Product Description

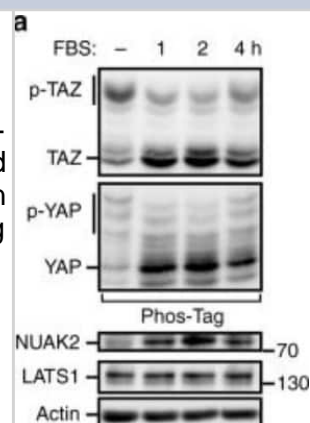
Host	Rabbit
Gene ID	81788
Gene Symbol	NUAK2
Species	Human, Mouse
Reactivity Notes	Rat (81%). Use in Mouse reported in scientific literature (PMID:31350328).
Immunogen	This antibody was developed against Recombinant Protein corresponding to amino acids: DPKEQKPPQASGLLLHRKGILKLNGKFSQTALELAAPTTFGSLDELAPPRPLAR ASRPSGAVSEDSILSSESFQDLPLPERLPEPPLRGCVSVDNLTGLEPPSEGP GSCLRRWRQDPLGDSCFSLTDCQEVATATYRQALRVCSKLT

Product Application Details

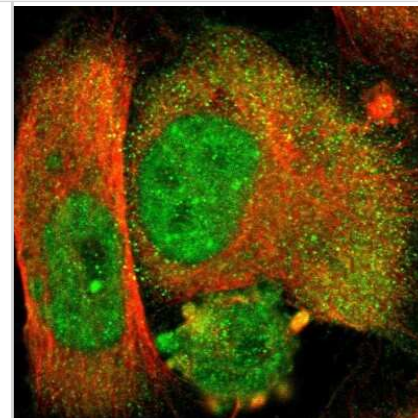
Applications	Western Blot, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Paraffin, Knockdown Validated
Recommended Dilutions	Western Blot 0.04 - 0.4 ug/ml, Immunohistochemistry 1:50 - 1:200, Immunocytochemistry/ Immunofluorescence 0.25-2 ug/ml, Immunohistochemistry-Paraffin 1:50-1:200, Knockdown Validated
Application Notes	For IHC-Paraffin, HIER pH 6 retrieval is recommended. ICC/IF Fixation Permeabilization: Use PFA/Triton X-100.

Images

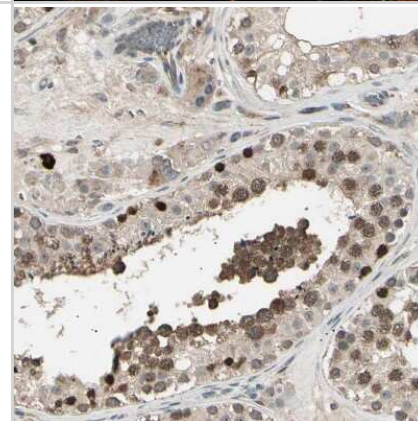
Western Blot: NUAK2 Antibody [NBP1-81880] - NUAK2 activity is involved in serum-induced or LPA-induced YAP/TAZ dephosphorylation and activation. FBS and LPA activate YAP/TAZ and induce NUAK2 expression. YAP/TAZ phosphorylation status was monitored using Phos-Tag gels, while NUAK2 and ANKRD1 mRNA expression was determined by qPCR at the indicated times. Expression data are plotted as the mean \pm SD (n = 3). Image collected and cropped by CiteAb from the following publication (<https://www.nature.com/articles/s41467-018-05939-2>), licensed under a CC-BY license.



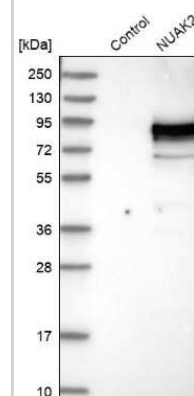
Immunocytochemistry/Immunofluorescence: NUAK2 Antibody [NBP1-81880] - Staining of human cell line U-251 MG shows localization to nucleoplasm, nucleoli fibrillar center & cytosol. Antibody staining is shown in green.



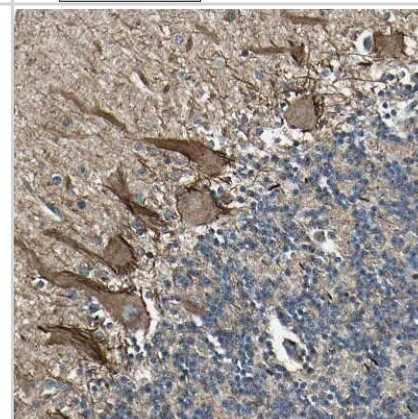
Immunohistochemistry-Paraffin: NUAK2 Antibody [NBP1-81880] - Staining of human testis shows moderate to strong cytoplasmic and nuclear positivity in cells in seminiferous ducts.



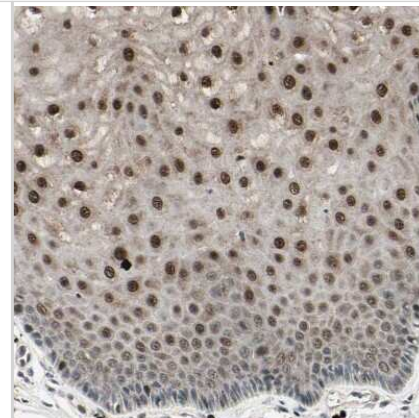
Western Blot: NUAK2 Antibody [NBP1-81880] - Analysis in control (vector only transfected HEK293T lysate) and NUAK2 over-expression lysate (Co-expressed with a C-terminal myc-DDK tag (3.1 kDa) in mammalian HEK293T cells).



Immunohistochemistry-Paraffin: NUAK2 Antibody [NBP1-81880] - Staining of human cerebellum shows strong membranous positivity in Purkinje cells.



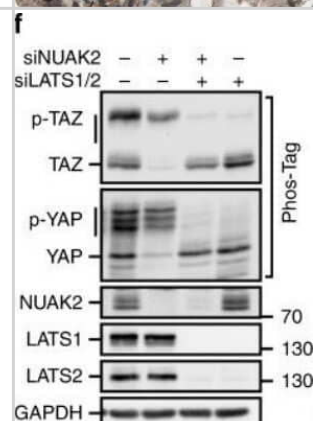
Immunohistochemistry-Paraffin: NUAK2 Antibody [NBP1-81880] - Staining of human cervix shows strong nuclear positivity in squamous epithelial cells.



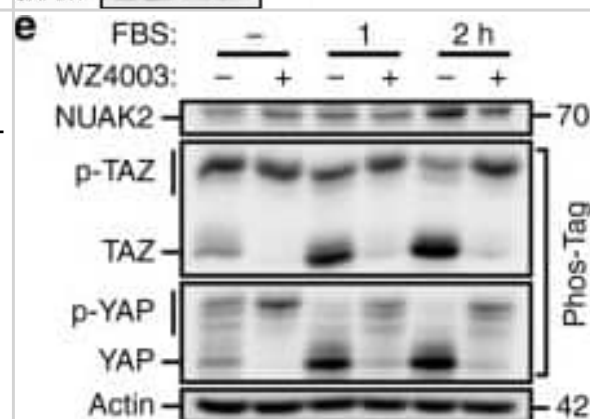
Immunohistochemistry-Paraffin: NUAK2 Antibody [NBP1-81880] - Staining of human duodenum shows moderate to strong nuclear positivity in glandular cells.



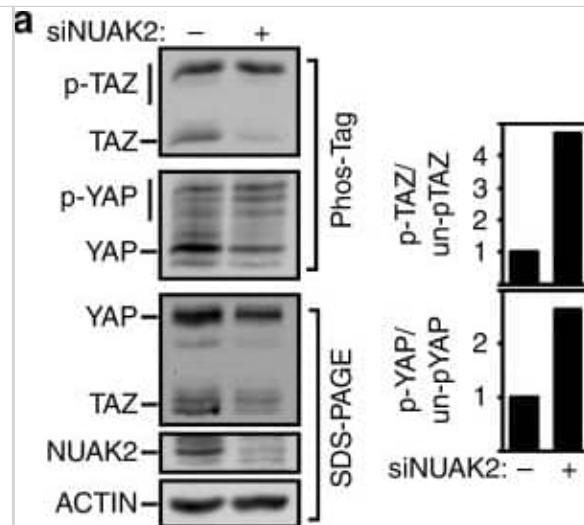
Western Blot: NUAK2 Antibody [NBP1-81880] - NUAK2 regulates YAP/TAZ activity through LATS. NUAK2 requires LATS to regulate YAP/TAZ localization, phosphorylation, and target gene expression in MDA-MB231 cells. YAP/TAZ phosphorylation was monitored using Phos-Tag gels. Relative phosphorylation levels from blots is quantitated (right). Image collected and cropped by CiteAb from the following publication (<https://www.nature.com/articles/s41467-018-05939-2>), licensed under a CC-BY license.



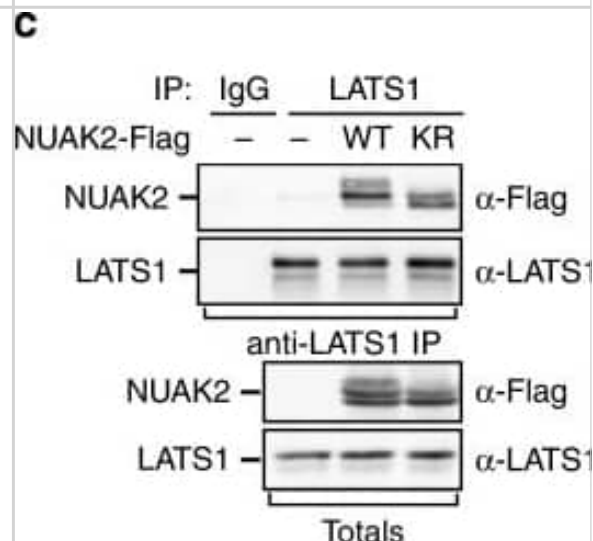
Western Blot: NUAK2 Antibody [NBP1-81880] - NUAK2 activity is involved in serum-induced or LPA-induced YAP/TAZ dephosphorylation & activation. a, b FBS & LPA activate YAP/TAZ & induce NUAK2 expression. YAP/TAZ phosphorylation status was monitored using Phos-Tag gels (a), while NUAK2 & ANKRD1 mRNA expression was determined by qPCR at the indicated times. Expression data are plotted as the mean \pm SD (n = 3). c-h WZ4003 (10 μ M) blocks serum/LPA-induced NUAK2 & ANKRD1 mRNA expression. FBS-induced or LPA-induced YAP/TAZ dephosphorylation (e & g), or NUAK2 & ANKRD1 mRNA expression (c, f, h) was monitored at the indicated times (d). Expression data are plotted as the mean \pm range for a representative experiment (c, f, h) Image collected & cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/30158528>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



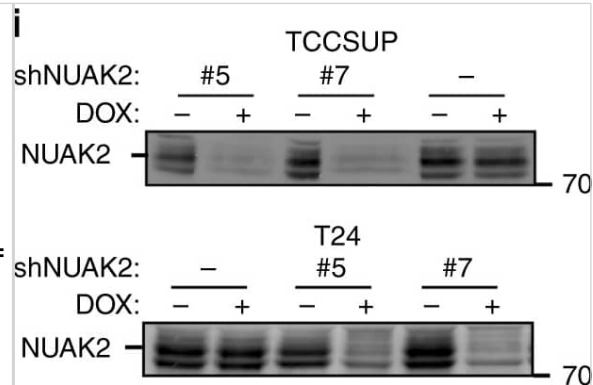
Western Blot: NUA2 Antibody [NBP1-81880] - NUA2 regulates YAP/TAZ activity through LATS. a Loss of NUA2 enhances YAP/TAZ phosphorylation in MDA-MB231 cells. Quantitation of relative phosphorylation levels from blots is shown. b NUA2 interacts with LATS1 & LATS2, but not MST1, MST2, or TAZ in the LUMIER protein interaction screen. c Lysates from HEK293T cells, transfected with NUA2-Flag, were subjected to immunoprecipitation (IP) using anti-LATS1 antibody for endogenous LATS1 & co-immunoprecipitated NUA2-Flag was detected by immunoblotting. Protein expression levels were confirmed (Totals). WT wild type, KR K81R, kinase dead. d-f NUA2 requires LATS to regulate YAP/TAZ localization, phosphorylation, & target gene expression in MDA-MB231 cells. d YAP/TAZ localization was quantitated & plotted as the mean \pm SD (n = 3) with representative images shown on the right. Scale bars, 25 μ m. N: nuclear, C: cytoplasmic. e Target gene expression was determined by qPCR. Data are plotted as the mean \pm SD (n = 3). f YAP/TAZ phosphorylation was monitored using Phos-Tag gels. Relative phosphorylation levels from blots is quantitated (right) Image collected & cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/30158528>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



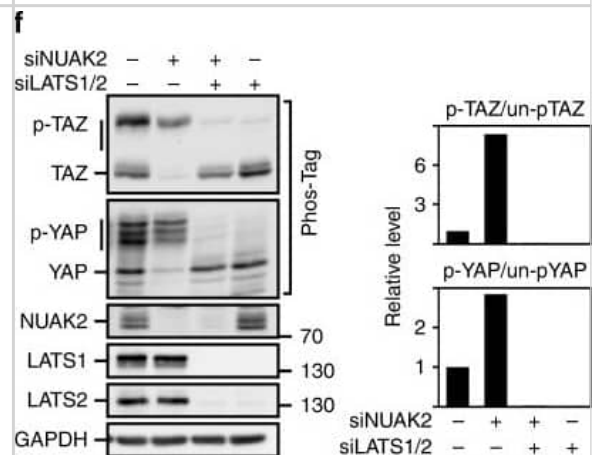
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Western Blot: NUA2 Antibody [NBP1-81880] - NUA2 is associated with high-grade human bladder cancer. a, c Expression of NUA2 & the YAP Signature Genes (YAP SG) is enhanced both in high-grade non-muscle-invasive (HG-NMIBC; n = 13, **p = 0.0071) & muscle-invasive (pT2 MIBC; n = 9, **p = 0.0033) bladder cancers³⁹ as compared to LG-NMIBC (n = 27) using an unpaired t test. b Elevated expression of NUA2 is correlated with disease recurrence in a cohort⁴¹ of MIBC patient samples with n = 57 disease free & n = 56, recurred samples (*p = 0.0172). Box & whisker plots show the median (line in the box), first & third quartiles (lower & upper ends of the box), & the minimum & maximum values (whiskers in the plot). Dots represent a single patient sample. d A heat map depicting expression of NUA2 & YAP SG in NMIBC LG (open circle), HG (closed circle), & MIBC pT2 (slashed circle) bladder cancer samples³⁹. e Characterization of high-grade-derived & low-grade-derived bladder cancer cell lines. Scale bar, 25 μ m. f NUA2 mRNA expression is elevated in HG-derived (TCCSUP & T24) BC cell lines as compared to LG lines. Data are plotted as the mean \pm SD (n = 3). g-i Blocking NUA2 activity with 10 μ M WZ4003 (g) or NUA2 expression in stable clones (#5 or #7) using inducible NUA2 shRNAs (h, i) inhibits the growth of HG BC cell lines as measured by SRB (g) or DAPI (h) staining. Data are plotted as the mean \pm SD of a representative experiment, n = 3 (for TCC) or mean \pm range of two experiments (for T24) Image collected & cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/30158528>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



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Publications

Fu W, Zhao MT, Driver LM Et al. NUA family kinase 2 is a novel therapeutic target for prostate cancer Molecular carcinogenesis 2021-11-24 [PMID: 34818445] (WB, Human)

Hollstein P E, Eichner L J et al. The AMPK-Related Kinases SIK1 and SIK3 Mediate Key Tumor-Suppressive Effects of LKB1 in NSCLC. Cancer Discov 2019-01-11 [PMID: 31350328] (WB, Mouse)

Gill MK, Christova T, Zhang YY et al. A feed forward loop enforces YAP/TAZ signaling during tumorigenesis Nat Commun 2018-08-29 [PMID: 30158528] (WB, Human)

Stadler C, Rexhepaj E, Singan VR et al. Immunofluorescence and fluorescent-protein tagging show high correlation for protein localization in mammalian cells. Nat Methods 2013-04-01 [PMID: 23435261]

Kim JG, Lee SJ, Chae YS et al. Association between Phosphorylated AMP-Activated Protein Kinase and MAPK3/1 Expression and Prognosis for Patients with Gastric Cancer. Oncology 2013-07-16 [PMID: 23860205]





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NB7160	Goat anti-Rabbit IgG (H+L) Secondary Antibody [HRP]
NBP2-24891	Rabbit IgG Isotype Control

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