Product Datasheet

FUS Antibody - BSA Free

NB100-565

Unit Size: 100 ul

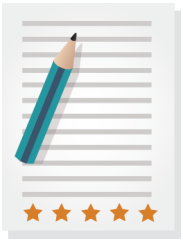
Store at 4C. Do not freeze.

www.novusbio.com technical@novusbio.com

Reviews: 4 Publications: 32

Protocols, Publications, Related Products, Reviews, Research Tools and Images at:
www.novusbio.com/NB100-565

Updated 2/21/2025 v.20.1



NB100-565

FUS Antibody - BSA Free

Product Information

Unit Size	100 ul
Concentration	1.0 mg/ml
Storage	Store at 4C. Do not freeze.
Clonality	Polyclonal
Preservative	0.09% Sodium Azide
Isotype	IgG
Purity	Immunogen affinity purified
Buffer	Tris-Citrate/Phosphate (pH 7.0 - 8.0)
Target Molecular Weight	53 kDa

Product Description

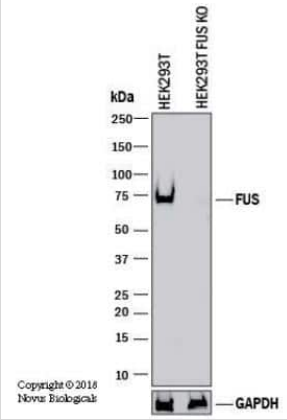
Host	Rabbit
Gene ID	2521
Gene Symbol	FUS
Species	Human, Mouse, Rat
Reactivity Notes	Rat reactivity reported in scientific literature (PMID: 26403203).
Immunogen	The immunogen recognized by this antibody maps to a region between residues 1 and 50 of human fusion (involved in t(12;16) in malignant liposarcoma) using the numbering given in SwissProt entry P35637 (GeneID 2521).

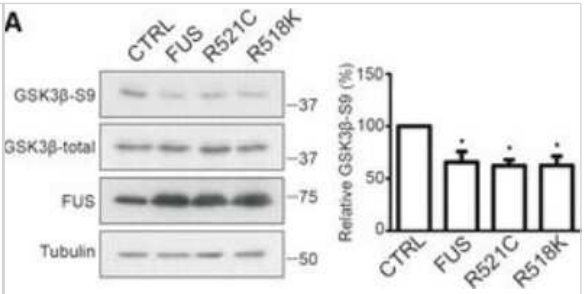
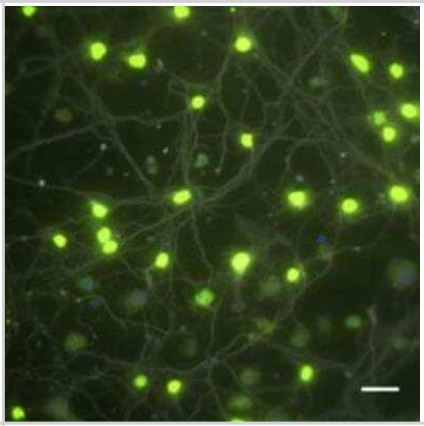
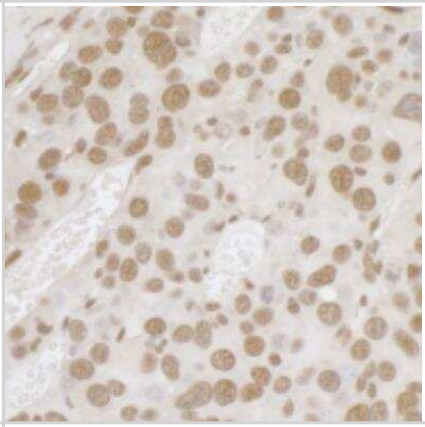
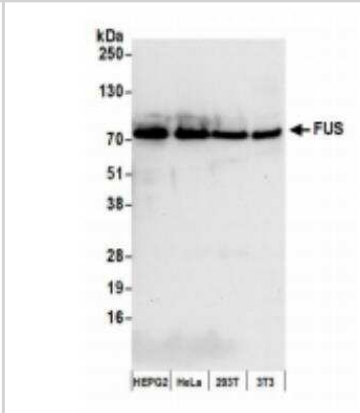
Product Application Details

Applications	Western Blot, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Paraffin, Immunoprecipitation, Knockout Validated
Recommended Dilutions	Western Blot 1:2000 - 1:10000, Immunohistochemistry 1:500 - 1:2000, Immunocytochemistry/ Immunofluorescence 1:500 - 1:2000, Immunoprecipitation 2-10 ug/mg lysate, Immunohistochemistry-Paraffin 1:500 - 1:2000, Knockout Validated
Application Notes	Epitope retrieval with citrate buffer pH6.0 is recommended for FFPE tissue sections. ICC/IF reactivity reported in scientific literature (PMID: 28444573). FUS antibody validated for ICC/IF from a verified customer review.

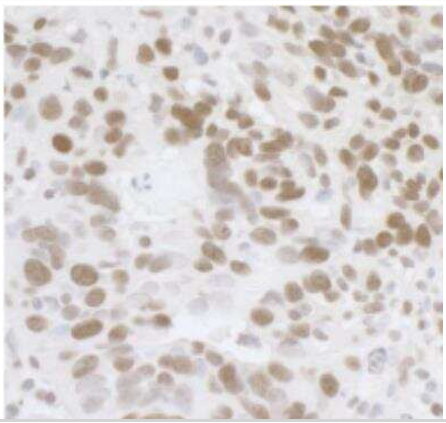
Images

Western Blot: FUS Antibody [NB100-565] - Western blot shows lysates of HEK293 human embryonic kidney parental cell line and FUS knockout (KO) HEK293 human embryonic kidney cell line. PVDF membrane was probed with 1:1000 of Rabbit Anti-Human FUS Polyclonal Antibody (Catalog # NB100-565) followed by HRP-conjugated Anti-Rabbit IgG Secondary Antibody (Catalog #HAF008). Specific band was detected for FUS at approximately 75 kDa (as indicated) in the parental HEK293 celll line, but is not detectable in the knockout HEK293 cell line. This experiment was conducted under reducing conditions.

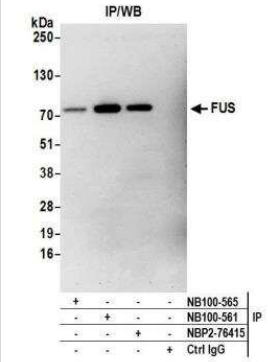


Western Blot: FUS Antibody [NB100-565] - FUS activates GSK-3beta in transfected cells and transgenic mice A. Cells were transfected with either control vector (CTRL), HA-FUS, HA-FUSR521C or HA FUSR518K and the samples probed on immunoblots for GSK-3beta phosphorylated on serine 9 (GSK-3beta-S9), total GSK-3beta, FUS (using FUS antibody) and tubulin as a loading control. Phosphorylation of GSK-3beta serine 9 is the principal mechanism for regulating its activity; serine 9 phosphorylation inhibits GSK-3beta activity. Bar chart shows relative levels of GSK-3beta serine 9 phosphorylation following quantification of signals from immunoblots and normalization to total GSK-3beta signals. Data were analysed by one-way ANOVA and Tukey's post hoc test. N = 4, error bars are s.e.m.; *P < 0.05. Image collected and cropped by CiteAb from the following publication (https://onlinelibrary.wiley.com/doi/10.15252/embr.201541726), licensed under a CC-BY license.	
Immunocytochemistry/Immunofluorescence: FUS Antibody [NB100-565] - FUS (NB100-565) (green), b-III Tubulin (white), DAPI (blue). FUS antibody dilution: 1:300 in PBST (0.1% Triton X-100) + 10% GS O/N 4C. ICC/IF image submitted by a verified customer review.	
Immunohistochemistry-Paraffin: FUS Antibody [NB100-565] - FFPE section of mouse renal cells carcinoma. Affinity purified rabbit anti-FUS used at a dilution of 1:1,000 (1 ug/mL). Detection: DA	
Western Blot: FUS Antibody [NB100-565] - Whole cell lysate (50 ug) from HepG2, HeLa, 293T, and mouse NIH3T3 cells prepared using NETN lysis buffer. Affinity purified rabbit anti-FUS antibody used for WB at 0.04 ug/mL. Detection: chemiluminescence with an exposure time of 10 seconds.	

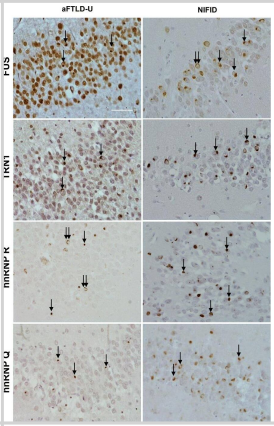
Immunohistochemistry-Paraffin: FUS Antibody [NB100-565] - FFPE section of human ovarian carcinoma. Affinity purified rabbit anti-FUS used at a dilution of 1:1,000 (1 ug/mL). Detection: DAB



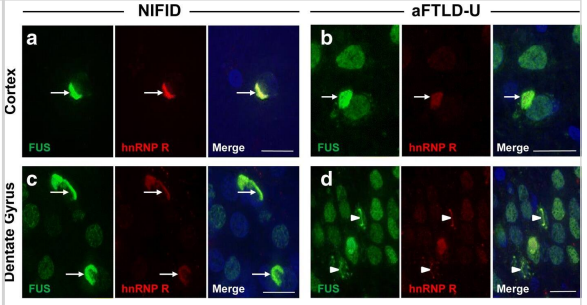
Immunoprecipitation: FUS Antibody [NB100-565] - Detection of human FUS by Western blot of immunoprecipitates. Samples: Whole cell lysate (1.0 mg per IP reaction; 20% of IP loaded) from HEK293T cells prepared using NETN lysis buffer. Antibodies: Affinity purified rabbit anti-FUS antibody NB100-565 used for IP at 3 ug per reaction. FUS was also immunoprecipitated by rabbit anti-FUS recombinant monoclonal antibody [BLR023E] (NBP2-76415) and rabbit anti-FUS antibody NB100-561. For blotting immunoprecipitated FUS, NB100-565 was used at 1:1000. Detection: Chemiluminescence with an exposure time time of 3 minutes.

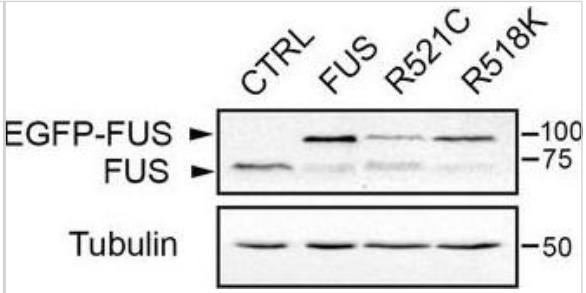
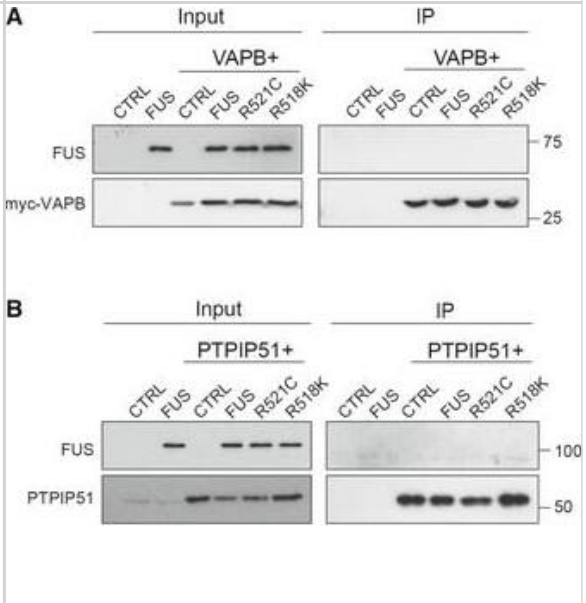
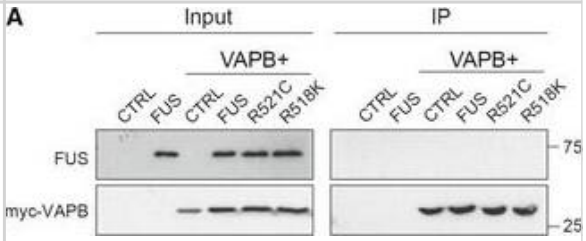


Immunocytochemistry/ Immunofluorescence: FUS Antibody [NB100-565] - hnRNP R & hnRNP Q form frequent inclusions in FTLD-FUS. Representative images of FUS, TRN1, hnRNP R & hnRNP Q immunohistochemical staining in the granule cell layer of the dentate fascia of the hippocampus in NIFID & aFTLD-U subtypes of FTLD-FUS. Single arrows indicate neuronal cytoplasmic inclusions & double arrows highlight intranuclear inclusions. Scale bars represent 50 µm in all images Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/30755280), licensed under a CC-BY license. Not internally tested by Novus Biologicals.

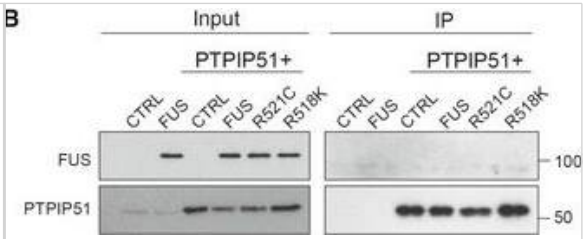


Immunocytochemistry/ Immunofluorescence: FUS Antibody [NB100-565] - hnRNP R co-localises with FUS inclusions in NIFID & aFTLD-U cases. Representative images of double-label immunofluorescence in the cortex (a & b) & granular cell layer of the dentate gyrus (c & d) of a NIFID & aFTLD-U case demonstrating colocalisation of FUS (green) & hnRNP R (red) in neuronal cytoplasmic inclusions (white arrows) & intranuclear neuronal inclusions (white arrow heads). Neuronal nuclei are counterstained with DAPI. Scale bars represent 20 µm in all images Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/30755280), licensed under a CC-BY license. Not internally tested by Novus Biologicals.

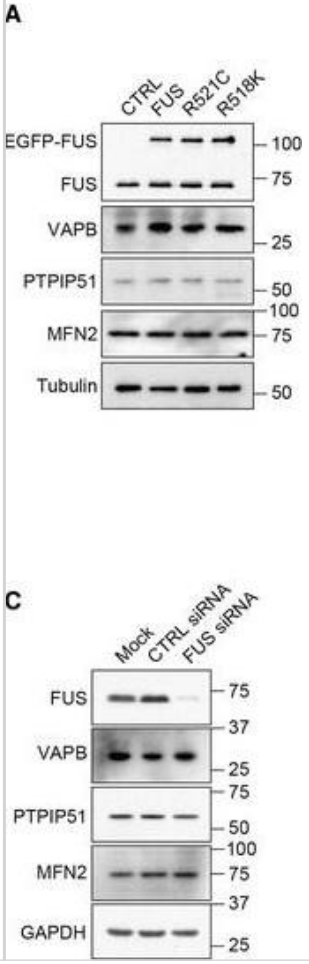


Western Blot: FUS Antibody [NB100-565] - Expression of EGFP□FUS reduces the expression of endogenous FUSHEK293 cells were transfected with control EGFP, EGFP□FUS, EGFP□FUSR521C or EGFP□FUSR518K & 72 h post□transfection, the samples were probed on immunoblots for FUS (using FUS antibody) & tubulin as a loading control. Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/27418313), licensed under a CC-BY license. Not internally tested by Novus Biologicals.	
Western Blot: FUS Antibody [NB100-565] - FUS does not bind VAPB or PTPIP51 in immunoprecipitation assays from transfected HEK293 cellsCells were transfected as indicated with control vector (CTRL), HA□FUS + CTRL, myc□VAPB + CTRL, or myc□VAPB + either HA□FUS, HA□FUSR521C or HA□FUSR518K. VAPB was immunoprecipitated via the myc□tag & the samples probed on immunoblots for VAPB using rabbit VAPB antibody & for co□immunoprecipitating FUS via the HA tag. Input VAPB & FUS were detected using myc & HA antibodies.Cells were transfected as indicated with control vector (CTRL), HA□FUS + CTRL, HA□PTPIP51 + CTRL or HA□PTPIP51 + either HA□FUS, HA□FUSR521C or HA□FUSR518K. PTPIP51 was immunoprecipitated using rat anti□PTPIP51 & the samples probed for PTPIP51 using rabbit anti□HA antibody & for co□immunoprecipitating FUS using rabbit FUS antibody. Input PTPIP51 & FUS were detected using PTPIP51 & EGFP antibodies, respectively. Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/27418313), licensed under a CC-BY license. Not internally tested by Novus Biologicals.	
Western Blot: FUS Antibody [NB100-565] - FUS does not bind VAPB or PTPIP51 in immunoprecipitation assays from transfected HEK293 cellsCells were transfected as indicated with control vector (CTRL), HA□FUS + CTRL, myc□VAPB + CTRL, or myc□VAPB + either HA□FUS, HA□FUSR521C or HA□FUSR518K. VAPB was immunoprecipitated via the myc□tag & the samples probed on immunoblots for VAPB using rabbit VAPB antibody & for co□immunoprecipitating FUS via the HA tag. Input VAPB & FUS were detected using myc & HA antibodies.Cells were transfected as indicated with control vector (CTRL), HA□FUS + CTRL, HA□PTPIP51 + CTRL or HA□PTPIP51 + either HA□FUS, HA□FUSR521C or HA□FUSR518K. PTPIP51 was immunoprecipitated using rat anti□PTPIP51 & the samples probed for PTPIP51 using rabbit anti□HA antibody & for co□immunoprecipitating FUS using rabbit FUS antibody. Input PTPIP51 & FUS were detected using PTPIP51 & EGFP antibodies, respectively. Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/27418313), licensed under a CC-BY license. Not internally tested by Novus Biologicals.	

Western Blot: FUS Antibody [NB100-565] - FUS does not bind VAPB or PTPIP51 in immunoprecipitation assays from transfected HEK293 cellsCells were transfected as indicated with control vector (CTRL), HA□FUS + CTRL, myc□VAPB + CTRL, or myc□VAPB + either HA□FUS, HA□FUSR521C or HA□FUSR518K. VAPB was immunoprecipitated via the myc□tag & the samples probed on immunoblots for VAPB using rabbit VAPB antibody & for co□immunoprecipitating FUS via the HA tag. Input VAPB & FUS were detected using myc & HA antibodies.Cells were transfected as indicated with control vector (CTRL), HA□FUS + CTRL, HA□PTPIP51 + CTRL or HA□PTPIP51 + either HA□FUS, HA□FUSR521C or HA□FUSR518K. PTPIP51 was immunoprecipitated using rat anti□PTPIP51 & the samples probed for PTPIP51 using rabbit anti□HA antibody & for co□immunoprecipitating FUS using rabbit FUS antibody. Input PTPIP51 & FUS were detected using PTPIP51 & EGFP antibodies, respectively. Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/27418313), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Western Blot: FUS Antibody [NB100-565] - Expression of wild□type & ALS/FTD□mutant FUS reduces ER–mitochondria associations in NSC34 cellsAExpression of FUS does not alter expression of VAPB, PTPIP51 or mitofusin□2 (MFN2) in transfected NSC34 cells. Immunoblots of NSC34 cells transfected with EGFP as a control (CTRL), or wild□type or mutant EGFP□FUS. Transfected cells were purified via EGFP using a cell sorter & the samples probed on immunoblots as indicated. On the FUS immunoblot, samples were probed with FUS antibody to show endogenous & transfected proteins; tubulin is shown as a loading control.BRepresentative electron micrographs of ER–mitochondria associations in NSC34 cells transfected with control EGFP vector (CTRL), EGFP□FUS, EGFP□FUSR521C or EGFP□FUSR518K as indicated; arrowheads with loops show regions of association. Scale bar = 200 nm. Bar chart shows % of the mitochondrial surface closely apposed to ER in the different samples. Data were analysed by one□way analysis of variance (ANOVA) followed by Tukey's multiple comparison test. N = 27–30 cells & 247–424 mitochondria, error bars are s.e.m.; ***P < 0.001.C, DsiRNA loss of FUS does not affect ER–mitochondria associations or alter expression of VAPB, PTPIP51 or mitofusin□2 (MFN2) in NSC34 cells. (C) Immunoblots of cells either mock transfected or treated with control (CTRL) or FUS siRNAs; GAPDH is shown as a loading control. (D) Representative electron micrographs of ER–mitochondria associations in control (CTRL) & FUS siRNA□treated cells. Arrowheads with loops show regions of association. Scale bar = 200 nm. Data analysed by unpaired t□test. N = 27–28 cells & 193–202 mitochondria, error bars are s.e.m. Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/27418313), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Publications

Maron MI, Lehman SM, Gayatri S, DeAngelo JD et Al. Independent transcriptomic and proteomic regulation by type I and II protein arginine methyltransferases iScience 2021-09-10 [PMID: 34505004]

D Jutzi, S Campagne, R Schmidt, S Reber, J Mechtershe, F Gypas, C Schweingru, M Colombo, C von Schroe, FE Loughlin, A Devoy, E Hedlund, M Zavolan, FH Allain, MD Ruepp Aberrant interaction of FUS with the U1 snRNA provides a molecular mechanism of FUS induced amyotrophic lateral sclerosis Nature Communications, 2020-12-11;11(1):6341. 2020-12-11 [PMID: 33311468]

Clara Dees, Sebastian Pötter, Yun Zhang, Christina Bergmann, Xiang Zhou, Markus Luber, Thomas Wohlfahrt, Emmanuel Karouzakis, Andreas Ramming, Kolja Gelse, Akihiko Yoshimura, Rudolf Jaenisch, Oliver Distler, Georg Schett, Jörg H.W. Distler TGF- β –induced epigenetic deregulation of SOCS3 facilitates STAT3 signaling to promote fibrosis The Journal of Clinical Investigation 2020-08-01 [PMID: 31990678]

Poole CJ, Zheng W, Lodh A et al. DNMT3B overexpression contributes to aberrant DNA methylation and MYC-driven tumor maintenance in T-ALL and Burkitt's lymphoma Oncotarget. 2017-09-29 [PMID: 29100357]

Mamontova, EM;Clément, MJ;Sukhanova, MV;Joshi, V;Bouhss, A;Rengifo-Gonzalez, JC;Desforges, B;Hamon, L;Lavrik, OI;Pastré, D; FUS RRM regulates poly(ADP-ribose) levels after transcriptional arrest and PARP-1 activation on DNA damage Cell reports 2023-10-05 [PMID: 37804508]

Bajc Cesnik A, Darovic S, Prpar Mihevc S et al. Nuclear RNA foci from C9ORF72 expansion mutation form paraspeckle-like bodies J. Cell. Sci. 2019-02-11 [PMID: 30745340]

Birsa N, Ule AM, Garone MG et al. FUS-ALS mutants alter FMRP phase separation equilibrium and impair protein translation Science Advances 2021-07-23 [PMID: 34290090] (Immunohistochemistry, Western Blot, Immunocytochemistry/ Immunofluorescence)

Mamontova E, Clément M, Sukhanova M et al. FUS RRM Regulates Poly(ADP)-Ribose Levels After Transcriptional Arrest and PARP-1 Activation on DNA Damage SSRN 2023-03-17

Tavares M, Khandelwal G, Muter J et al. JAZF1-SUZ12 dysregulates PRC2 function and gene expression during cell differentiation Cell reports 2022-05-31 [PMID: 35649353] (WB, Mouse)

Devoy A, Price G, De Giorgio F Et al. Generation and analysis of innovative genomically humanized knockin SOD1, TARDBP (TDP-43), and FUS mouse models iScience 2021-12-01 [PMID: 34988393] (IF/IHC, Human)

Chennampally P, Sayed-Zahid A, Soundararajan P et al. A microfluidic approach to rescue ALS motor neuron degeneration using rapamycin Scientific reports 2021-09-13 [PMID: 34518579] (ICC/IF, WB)

Skalska L, Begley V, Beltran M et al. Nascent RNA antagonizes the interaction of a set of regulatory proteins with chromatin Molecular cell 2021-06-17 [PMID: 34166609]

More publications at http://www.novusbio.com/NB100-565

Novus Biologicals USA
10730 E. Briarwood Avenue
Centennial, CO 80112
USA
Phone: 303.730.1950
Toll Free: 1.888.506.6887
Fax: 303.730.1966
nb-customerservice@bio-techne.com

Bio-Techne Canada
21 Canmotor Ave
Toronto, ON M8Z 4E6
Canada
Phone: 905.827.6400
Toll Free: 855.668.8722
Fax: 905.827.6402
canada.inquires@bio-techne.com

Bio-Techne Ltd
19 Barton Lane
Abingdon Science Park
Abingdon, OX14 3NB, United Kingdom
Phone: (44) (0) 1235 529449
Free Phone: 0800 37 34 15
Fax: (44) (0) 1235 533420
info.EMEA@bio-techne.com

General Contact Information
www.novusbio.com
Technical Support: nb-technical@bio-techne.com
Orders: nb-customerservice@bio-techne.com
General: novus@novusbio.com

Products Related to NB100-565

NBL1-10861	FUS Overexpression Lysate
HAF008	Goat anti-Rabbit IgG Secondary Antibody [HRP]
NB7160	Goat anti-Rabbit IgG (H+L) Secondary Antibody [HRP]
NBP2-24891	Rabbit IgG Isotype Control

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

Earn gift cards/discounts by submitting a review: www.novusbio.com/reviews/submit/NB100-565

Earn gift cards/discounts by submitting a publication using this product: www.novusbio.com/publications