

Product Datasheet

[Anti-Neuroigin-3 \[IPI-mNLGN3.18\]](#)

[Applications](#) | [Antibody Details](#) | [Antigen Details](#) | [References](#)

Overview

Antigen	Neuroigin-3
Immunogen	Purified recombinant fragment of Human Neuroigin-3, corresponding to AA: 27-440.
Host/isotype	Rabbit/IgG
Clonality	Recombinant monoclonal
Clone name	IPI-mNLGN3.18
RRID	AB_3711763
IPI ID	TAB0011949-013-003
Specificity	NLGN3; Does not recognize other NLGNs
Species reactivity	Mouse and human
Amount	100 µg
Concentration	1 mg/mL
Purification	Expressed in ExpiCHO cells and affinity purified using Protein A
Storage buffer	PBS, pH 7.4
Shipping	Shipped on blue ice at +4C
Storage	Store at +4C for up to 3 months. For long-term storage, aliquot and store at -20C. Avoid multiple freeze/thaw cycles.

IPI Tested Applications[‡]

Application	Tested concentration	Result	Reference
Flow	0.66-100 µg/mL	Positive	https://doi.org/10.57733/addgene.93urkz
IF – Binding	0.1 µg/mL	Positive	https://doi.org/10.57733/addgene.ndvmzb
IF – Specificity	0.1 µg/mL	Positive	https://doi.org/10.57733/addgene.xsnjeg

[‡] Not suitable for WB application.

Community Data*

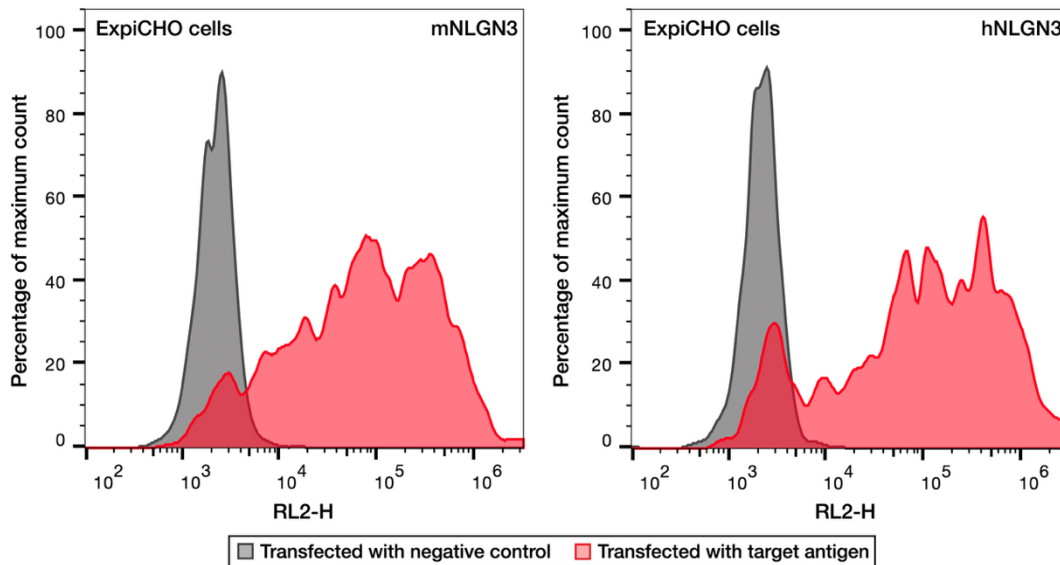
Application	Lab	Reference
IHC – KO	Peter Scheiffele, Ph.D., University of Basel	https://doi.org/10.57733/addgene.w2tpy3
IHC	Karl Murray, Ph.D., NeuroMab	https://doi.org/10.57733/addgene.zjds6g

* Supporting Data is generated by external partner labs, in the process of evaluating IPI antibody panels.

FOR RESEARCH USE ONLY - NOT INTENDED FOR DIAGNOSTIC or THERAPEUTIC USE

Applications

Flow cytometry



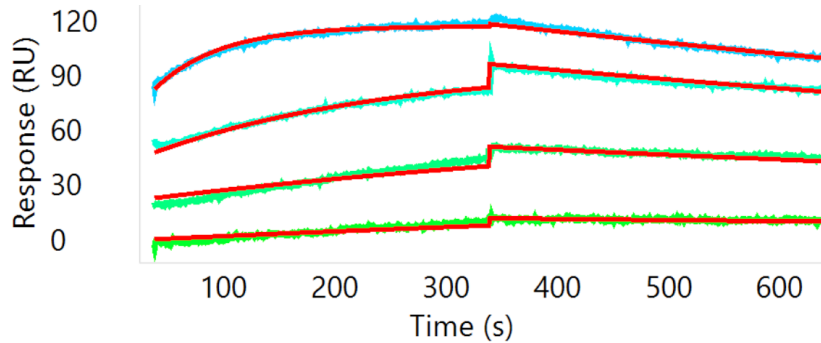
Anti-Neuroigin-3 [IPI-mNLGN3.18] (Addgene #219629) recognizes mouse and human NLGN3 in flow cytometry. Histogram from FACS analysis on ExpiCHO cells transfected with human or mouse NLGN3 (red), or B7H3 negative control (gray). Cells expressing human (left panel) or mouse (right panel) NLGN3 were labeled with Anti-Neuroigin-3 [IPI-mNLGN3.18] and Alexa Fluor 647 F(ab')₂ goat anti-rabbit IgG Fc fragment (Jackson ImmunoResearch, 111-606-046). Labeled cells were analyzed with an Intellicyt iQue Screener Plus flow cytometer. Histograms were generated and normalized to mode using FlowJo™ v10.10. doi:

<https://doi.org/10.57733/addgene.93urkz>

EC₅₀ (data not shown): A fourteen-point titration of antibody concentrations, ranging from 660 nM (0.1 mg/mL) to 4.42 pM with a 1:2.5 dilution factor, against human and mouse NLGN3 showed reactivity towards human and mouse NLGN3 with observed EC₅₀ values of 0.39 nM and 0.31 nM for human and mouse NLGN3, respectively.

FOR RESEARCH USE ONLY - NOT INTENDED FOR DIAGNOSTIC or THERAPEUTIC USE

Surface Plasmon Resonance (SPR)

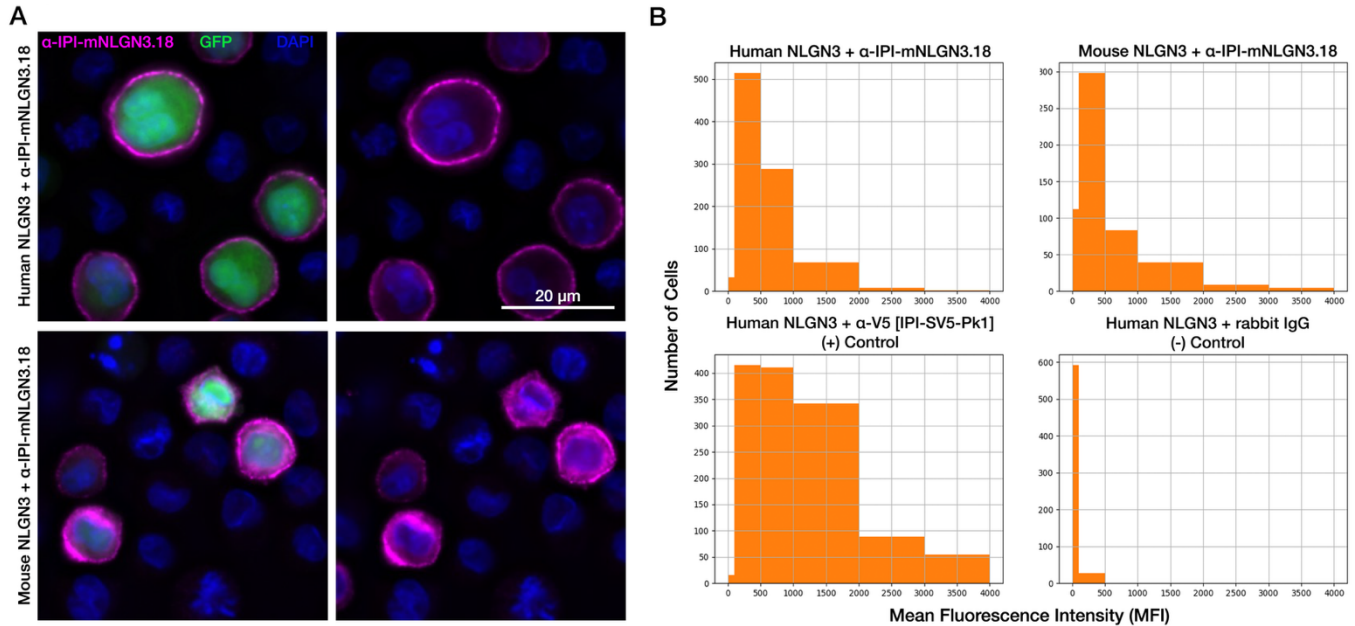


	k_a ($M^{-1}s^{-1}$)	k_d (s^{-1})	K_D (M)	R_{max} (RU)	Res. sd
IPI-mNLGN3.18	3.3×10^5	5.7×10^{-4}	1.7×10^{-9}	122	1.5

Surface Plasmon Resonance (SPR) kinetics analysis of the interaction between Anti-Neuroigin-3 [IPI-mNLGN3.18] and mouse NLGN3. SPR binding kinetics were measured on a Cytiva LSA using HC30M chips (Cytiva, cat. #4279) at 25 °C. Goat anti-rabbit IgG Fc (Jackson ImmunoResearch, cat. #111-005-046) was immobilized via amine coupling, and test antibodies were captured using a 96-channel print-head. Antigens (400 nM to five lower concentrations, 2-fold dilutions) were injected in antigen buffer (20 mM HEPES pH 7.4, 150 mM NaCl, 1 mM CaCl₂, 1 mM MgCl₂, 0.005% Tween 80) with 300 s association/dissociation phases and acid regeneration. Data (reference/buffer subtracted, smoothed) were globally fit to a 1:1 Langmuir model to derive k_a , k_d , and K_D using Cytiva Kinetics software v1.9.2.44.63, and replotted in OriginPro 2023b. Results show a high-affinity and specific binding event between the antibody and antigen.

FOR RESEARCH USE ONLY - NOT INTENDED FOR DIAGNOSTIC or THERAPEUTIC USE

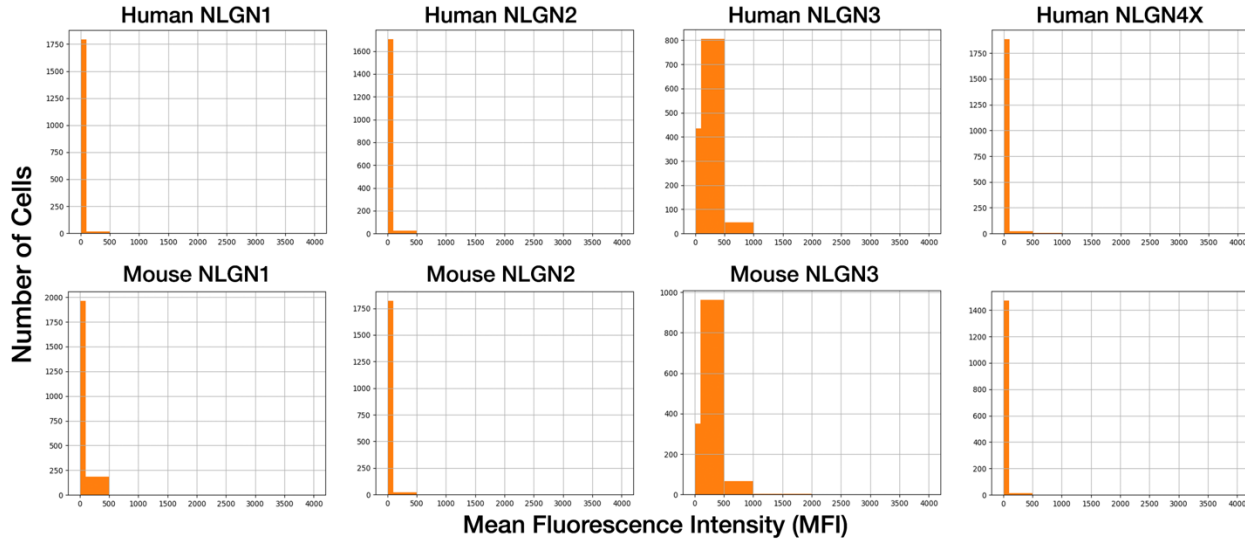
Immunofluorescence (IF) – Species Reactivity



Anti-Neuroigin-3 [IPI-mNLGN3.18] (Addgene #219629) recognizes mouse and human NLGN3 in immunofluorescence. A) Immunofluorescence (IF) of ExpiCHO cells transfected with human (top) and mouse (bottom) NLGN3. Widefield images taken at 40X magnification on an EVOS-m7000 microscope and deconvolved using the richardson-lucy algorithm in the FIJI deconlab plugin. Left images show all 3 channels (IPI-mNLGN3.18, GFP (transfection control) and DAPI) while the right images only show IPI-mNLGN3.18 and DAPI. B) Combined quantification of multiple images of the same transfected cells taken at 10X magnification. GFP-positive cells were identified via the neural network CellPose, then the mean fluorescence intensity (MFI) of the far-red channel for each cell, representing IPI-mNLGN3.18 staining, was recorded. Each histogram displays the number of cells with MFIs ranging from below 100 (background fluorescence) to 4095 (saturation). NLGN3.18 staining of human (left) and mouse (right) NLGN3 is shown in the top row, and compared to a positive (left) and negative (right) control in the bottom row. For both panels, NLGN3.18 was used at 0.1 ug/mL (1:10,000 dilution). doi: <https://doi.org/10.57733/addgene.ndvmzb>

FOR RESEARCH USE ONLY - NOT INTENDED FOR DIAGNOSTIC or THERAPEUTIC USE

Immunofluorescence (IF) – Target Specificity



		NLGN Specificity							
		NLGN1		NLGN2		NLGN3		NLGN4X	
		Hu	Mo	Hu	Mo	Hu	Mo	Hu	Mo
IPI-mNLGN3.18						++	++		

Strong	++
Weak	+
None	

Anti-Neuroigin-3 [IPI-mNLGN3.18] (Addgene #219629) is specific for mouse and human NLGN3 in immunofluorescence. Each graph depicts the combined quantification of multiple images of the same transfected cells taken at 10X magnification. GFP-positive cells were identified via the neural network CellPose, then the mean fluorescence intensity (MFI) of the far-red channel for each cell, representing IPI-mNLGN3.18 staining, was recorded. Each histogram displays the number of cells with MFIs ranging from below 100 (background fluorescence) to 4095 (saturation). IPI-mNLGN3.18 staining of human and mouse variants of each NLGN family member is compared on the top and bottom rows. To test family-wide cross-reactivity, IPI-mNLGN3.18 was used at 0.1 ug/mL (1:10,000 dilution). doi:

<https://doi.org/10.57733/addgene.xsnjeg>

Antibody Details

Antibody design and production

Human variable domains for the heavy and light chain of the FAB fragment used in yeast display were grafted onto the constant CH1, CH2 and CH3 domains of rabbit IgG. The chimera human/rabbit IgG1 construct was recombinantly expressed in Expi HEK293 cells, using pTipi2.1 as the expression vector. The antibody was purified by affinity chromatography using protein A (XYZ) and acid elution, followed by immediate buffer exchange using 1 x PBS buffer pH 7.4.

Sequence information

Heavy chain and light chain amino acid sequences are available upon request after purchase. [Contact us](#) to request.

Antibody Characterization

LC-MS: Intact mass analysis via LC-MS methods allows for confirmation antibody mass, and to identify any product-related variants such as glycosylation. Before conducting intact mass analysis via LC-MS, the antibody was reduced to its heavy chain (HC) and light chain (LC). This process allows for confirmation of the masses corresponding to the amino acid sequences of both chains.

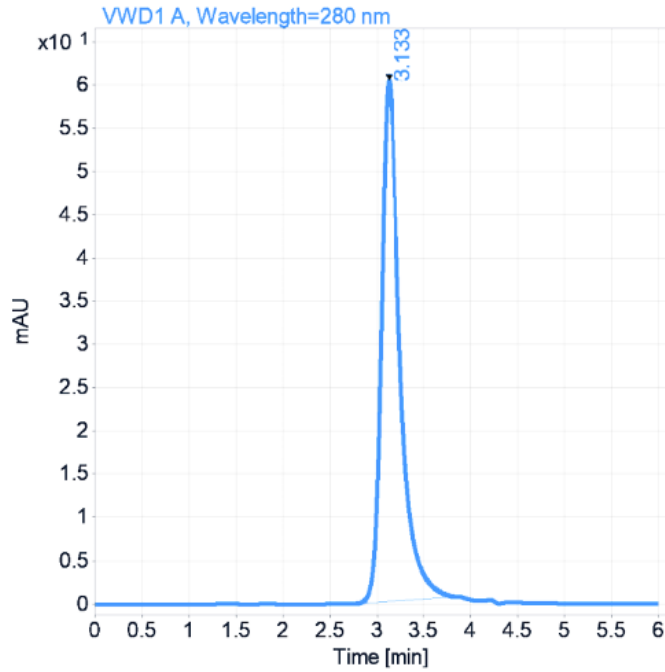
	HC MW (Da) <i>Calculated</i>	HC MW (Da) <i>Observed</i>	HC MW (Da) <i>Delta</i>	LC MW (Da) <i>Calculated</i>	LC MW (Da) <i>Observed</i>	LC MW (Da) <i>Delta</i>
IPI-mNLGN3.18	49885.93	49891.30	5.37	22944.51	22944.24	-0.27

Heavy Chain (HC) Mass Calculation: The calculated molecular weight (MW) of the HC is derived by adding the mass of the unmodified HC amino acid sequence to the mass of the predominant N-glycan form (G0F), which is 1444.5 Da. This calculation assumes that the intrachain disulfide bonds remain intact. For HCs with an N-terminal glutamine (Q), the mass of Q is converted to pyroglutamic acid (PyroGlu), resulting in a deduction of 17.03 Da from the total mass. Additionally, for HCs with a C-terminal lysine (K), the mass of K (128.09 Da) is also subtracted.

Light Chain (LC) Mass Calculation: The calculated molecular weight (MW) of the LC is obtained from the mass of the unmodified LC amino acid sequence, assuming that the intrachain disulfide bonds are not reduced. For LCs with an N-terminal glutamine (Q), the mass of Q is converted to pyroglutamic acid (PyroGlu), leading to a deduction of 17.03 Da from the total mass. For LCs with a C-terminal lysine (K), the mass of K (128.09 Da) is subtracted as well.

FOR RESEARCH USE ONLY - NOT INTENDED FOR DIAGNOSTIC or THERAPEUTIC USE

Size Exclusion Chromatography (SEC): SEC is a protein purification technique that separates molecules based on size.



	RT (min)	Width (min)	Area	Height	Area %	Result
IPI-mNLGN3.18	3.133	0.2076	844.7756	60.2364	100	Pass

FOR RESEARCH USE ONLY - NOT INTENDED FOR DIAGNOSTIC or THERAPEUTIC USE

Antigen Details

Immunogen design:

cDNA of Mouse Neuroigin-3 with N-termina FLAG- and C-terminal His- and Avi-tags was produced in transiently transfected Expi293F cells and purified from culture supernatant by Ni-NTA affinity purification followed by size-exclusion chromatography.

Immunogen sequences:

>Mouse NLGN3 (AA: 27-440)
DYKDDDDKGSGLFEMGLPNQWARYLRWDASTRSDLSFQFKTNVSTGLLLYLDDGGVCDLCLSLVDG
RVQLRFSMDCAETTVLSNKQVNDSSWHFLMVSRRDRVRTGLVIDGEGQSGELRPQRPYMDVWSDLFLGG
VPADIRPSALTLDGVSQMPGFKGLMLDLKYGNSEPRLLGSQSVQLEAEGPCGERPCENGGICFLLDGHP
TDCSTTGYYGGLTCSQDVSQGPGLSHLMMSEQAREENVATFRGSEYLCYDLSQNPQQSSDEITLSFKT
WQRNGLILHTGKSADYVNLALKDGAIVSLVINLGSQAFEAIVEPVNGKFNDNAWHDKVTRNLRQVTISVD
GILTTTGTYQEDYTMLGSDDFYVGGSPSTADLPGSPVSNFMGCLKEVVYKNNDIRLELSRLARIGDTK
MKIYGEVVFVKCGSGGLNDIFEAQKIEWHEGSGHHHHHHHH

Sequence information:

HUGO: MGI:2444609
Uniprot: Q8BYM5
Refseq: NM_172932.4

Structural information:

Topology: Single-pass type I membrane protein
PDB IDs: -
AlphaFold: AF-Q8BYM5-F1

Expression profiles:

Human Protein Atlas ENSG00000196338

References

1. Z. Anderson, H. Li, T. Riedel, H. Zhu and D. Moshinsky. (2025). Flow Cytometry for Anti-Neurologin-3 [IPI-mNLGN3.18]. Addgene. <https://doi.org/10.57733/addgene.93urkz>
2. A. Morano, T. Riedel, and D. Moshinsky. (2025). ICC/IF for Anti-Neurologin-3 [IPI-mNLGN3.18] in binding assay. Addgene. <https://doi.org/10.57733/addgene.ndvmzb>
3. A. Morano, T. Riedel, and D. Moshinsky. (2025). ICC/IF for Anti-Neurologin-3 [IPI-mNLGN3.18] in specificity assay. Addgene. <https://doi.org/10.57733/addgene.xsnjeg>
4. P. Scheiffele. (2025). IHC for Anti-Neurologin-3 [IPI-mNLGN3.18]. Addgene. <https://doi.org/10.57733/addgene.w2tpy3>
5. K. Murray. (2026). IHC for IPI-mNLGN3.18. Addgene. <https://doi.org/10.57733/addgene.zjds6g>

How to cite this antibody:

Anti-Neurologin-3 [IPI-mNLGN3.18] - from Institute for Protein Innovation (IPI) (Addgene #219629; <http://n2t.net/addgene:219629>; RRID: AB_3711763).

If you publish research with this product, please [let us know](#) so that we can cite your paper.