Product Datasheet

Anti-Neurexin-2-alpha [IPI-mNRXN2a.10]

Applications | Antibody Details | Antigen Details | References

Overview

Antigen	Neurexin-2-alpha
Immunogen	Purified recombinant fragment of Mouse Neurexin-2-alpha, corresponding to AA: 28-486.
Host/isotype	Rabbit/IgG
Clonality	Recombinant monoclonal
Clone name	IPI-mNRXN2a.10
RRID	AB_3678705
IPI ID	TAB0013311-013-002
Specificity	NRXN2a; Weak crossreactivity with NRXN3
Species reactivity	Mouse and human
Amount	100 µg
Concentration	1 mg/mL
Purification	Expressed in HEK293T 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
IF – Binding	1 µg/mL	Positive	https://doi.org/10.57733/addgene.7eqoq3
IF – Specificity	1 µg/mL	Positive	https://doi.org/10.57733/addgene.2bi0m3
SPR	0.25 µg/mL	Positive	https://doi.org/10.57733/addgene.215uvm

‡ Not suitable for WB application.

Community Data*

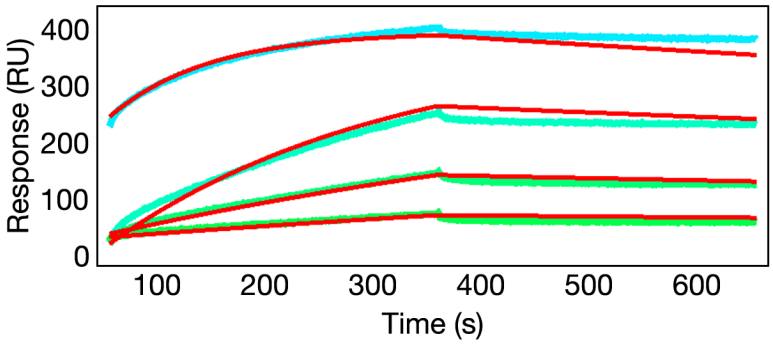
Application	Lab	Reference
ICC	Luís F. Ribeiro, Ph.D., University of Coimbra	https://doi.org/10.57733/addgene.dxwf4h
IHC	Karl Murray, Ph.D., NeuroMab	https://doi.org/10.57733/addgene.hnmfin

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

Applications

Surface Plasmon Resonance (SPR)

Anti-Neurexin-2-alpha [IPI-mNRXN2a.10]
Addgene #237806

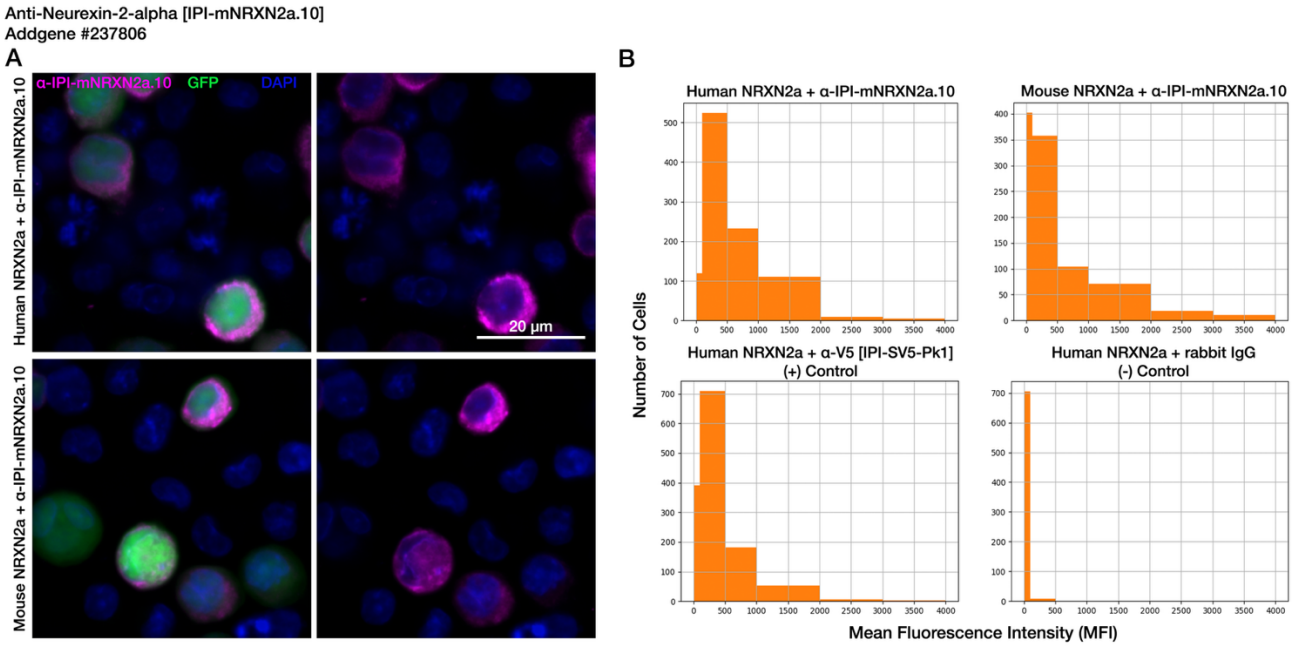


Kinetic Parameters

k_a ($M^{-1}s^{-1}$)	k_d (s^{-1})	K_D (M)
$7.50x10^{4}$	$3.10x10^{-4}$	$4.20x10^{-9}$

Surface Plasmon Resonance (SPR) kinetics analysis of the interaction between Anti-Neurexin-2-alpha [IPI-mNRXN2a.10] and M. musculus (mouse) NRXN2a. SPR binding kinetics were measured on a Carterra LSA using HC30M chips (Carterra, 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 $CaCl_2$, 1 mM $MgCl_2$, 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 ka, kd, and KD using Carterra 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. doi: https://doi.org/10.57733/addgene.215uvm

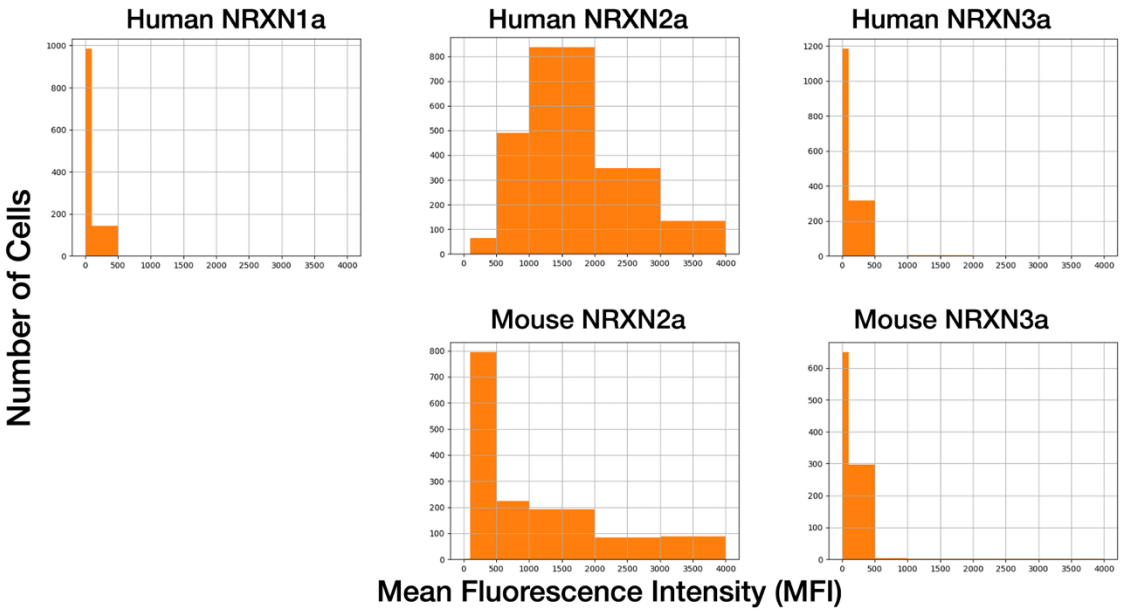
Immunofluorescence (IF) – Species Reactivity



Anti-Neurexin-2-alpha [IPI-mNRXN2a.10] (Addgene#237806) shows binding to human and mouse NRXN2a. A) Immunofluorescence (IF) of ExpiCHO cells transfected with human (top) and mouse (bottom) NRXN2a. Widefield images taken at 40X magnification on an EV0S-m7000 microscope and deconvolved using the richardson-lucy algorithm in the FIJI deconlab plugin. Left images show all 3 channels (IPI-mNRXN2a.10, GFP (transfection control) and DAPI) while the right images only show IPI-mNRXN2a.10 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-mNRXN2a.10 staining, was recorded. Each histogram displays the number of cells with MFIs ranging from below 100 (background fluorescence) to 4095 (saturation). IPI-mNRXN2a.10 staining of human (left) and mouse (right) NLGN2 is shown in the top row, and compared to a positive (left) and negative (right) control in the bottom row. For both panels, IPI-mNRXN2a.10 was used at 1 ug/mL (1:1,000 dilution). doi: https://doi.org/10.57733/addgene.7eqoq3

Immunofluorescence (IF) – Target Specificity

Anti-Neurexin-2-alpha [IPI-mNRXN2a.10]
Addgene #237806



NRXN Specificity

	NRXN1		NRXN2		NRXN3	
	Hu	Mo	Hu	Mo	Hu	Mo
IPI-mNRXN2a.10			++	++	+	+

Strong ++
Weak +
None

Anti-Neurexin-2-alpha [IPI-mNRXN2a.10] (Addgene#237806) shows binding to human and mouse NRXN2a only. 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-mNRXN2a.10 staining, was recorded. Each histogram displays the number of cells with MFIs ranging from below 100 (background fluorescence) to 4095 (saturation). IPI-mNRXN2a.10 staining of human and mouse variants of each NRXNa family member is compared on the top and bottom rows. To test family-wide cross-reactivity, IPI-mNRXN2a.10 was used at 1 ug/mL (1:1,000 dilution). doi: https://doi.org/10.57733/addgene.2bi0m3

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

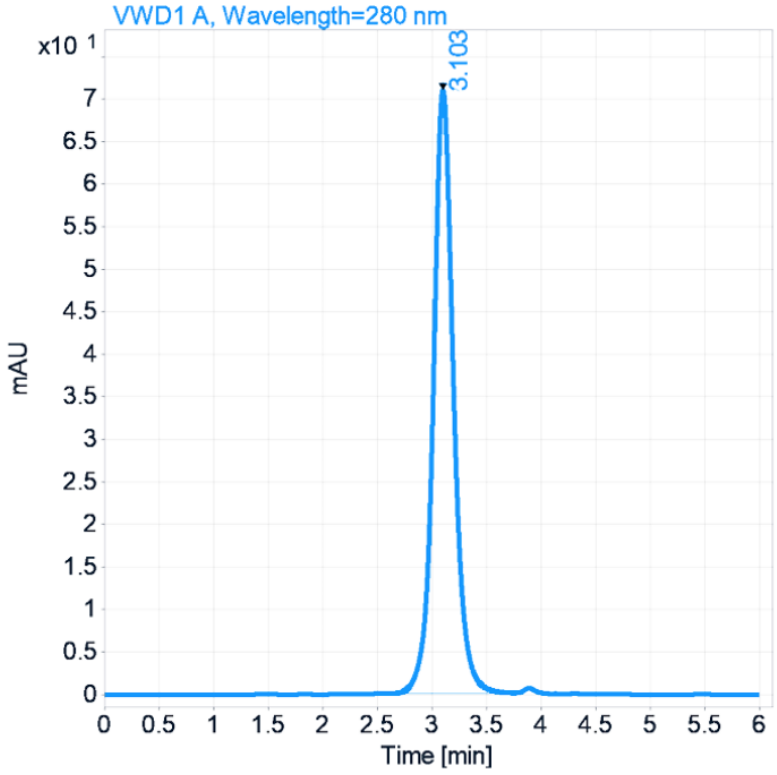
LC-MS: Intact mass analysis via LC-MS methods allows for confirmation antibody mass, and to identify any product-related variants such as glycosylation. Before conducting intact mass analysis via LC-MS, the antibody was reduced to its heavy chain (HC) and light chain (LC). This process allows for confirmation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

	HC MW (Da) *Calculated*	HC MW (Da) *Observed*	HC MW (Da) Delta	LC MW (Da) *Calculated*	LC MW (Da) *Observed*	LC MW (Da) Delta
IPI-mNRXN2a.10	50030.99	50034.6	3.61	23817.44	23817.01	-0.43

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.

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-mNRXN2a.10	3.103	0.194	911.7119	70.9098	100	Pass

Antigen Details

Immunogen design:

cDNA of Mouse Neurexin-2-alpha with C-terminal His-, Avi-, and HA-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 NRXN2 (AA: 28-486)
DYKDDDDKGSGLEFGGGPGQWARYARWAGAASTGELSFSLRTNATRALLLYLDDGGDCDFLELLLVDG
RLRLRFTLSCAEPATLQLDTPVADDRWHMVLLTRDARRTALAVDGEARAAEVRSKRREMQVASDLFVGG
IPPDVRLSALTLSTVKYEPPFRGLLANLKLGERPPALLGSQGLRGAAADPLCAPARNPCANGGLCTVLAP
GEVGCDCSHTGFGGKFCSEEEHPMEGPAHLTLNSEVGSLLFSEGGAGRGGAGDVHQPTKGKEEFVATF
KGNEFFCYDLSHNPIQSSTDEITLAFRTLQRNGLMLHTGKSADYVNLSLKSGAVWLVINLGSGAFEALVE
PVNGKFNDNAWHDVRVTRNLRQHAGIGHAMVNKLHYLVTISVDGILTTTGYTQEDYTMLGSDDFFYIGG
SPNTADLPGSPVSNNFMGCLKDVVYKNNDFKLELSRLAKEGDPKMKLQGDLSFRCGSGGLNDIFEAQKI
EWHEGSGHHHHHHHH

Sequence information:

HUGO:	MGI:1096362
Uniprot:	E9Q7X7
Refseq:	NM_001369363.1

Structural information:

Topology:	Single-pass type I membrane protein
PDB IDs:	4NXR
Alphafold:	AF-E9Q7X7-F1

Expression profiles:

Human Protein Atlas: ENSMUSG00000033768

References

1. A. Morano, T. Riedel, and D. Moshinsky. (2026). ICC/IF for Anti-Neurexin-2-alpha [IPI-mNRXN2a.10] in binding assay. Addgene. https://doi.org/10.57733/addgene.7eqoq3
2. A. Morano, T. Riedel, and D. Moshinsky. (2026). ICC/IF for Anti-Neurexin-2-alpha [IPI-mNRXN2a.10] in specificity assay. Addgene. https://doi.org/10.57733/addgene.2bi0m3
3. A. Kachare, M. Anuganti, T. Riedel, and D. Moshinsky. (2026). Anti-Neurexin-2-alpha [IPI-mNRXN2a.10] in Surface Plasmon Resonance (SPR). Addgene. https://doi.org/10.57733/addgene.215uvm
4. J. Azevedo, C. Cação and L.F. Ribeiro. (2026). ICC for IPI-mNRXN2a.10. Addgene. https://doi.org/10.57733/addgene.dxwf4h
5. K. Murray. (2026). IHC for IPI-mNRXN2a.10. Addgene. https://doi.org/10.57733/addgene.hnmfin

How to cite this antibody:
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