

## Product Datasheet

### [Anti-Neurexin-2-alpha \[IPI-mNRXN2a.32\]](#)

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#### Overview

Antigen	Neurexin-2-alpha
Immunogen	Purified recombinant fragment of Human Neurexin-2-alpha, corresponding to AA: 28-486.
Host/isotype	Rabbit/IgG
Clonality	Recombinant monoclonal
Clone name	IPI-mNRXN2a.32
RRID	AB_3678706
IPI ID	TAB0013333-013-002
Specificity	NRXN2a; Does not recognize other NRXNs
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<sup>‡</sup>

Application	Tested concentration	Result	Reference
IF – Binding	1 µg/mL	Positive	<a href="https://doi.org/10.57733/addgene.x7fj0e">https://doi.org/10.57733/addgene.x7fj0e</a>
IF – Specificity	1 µg/mL	Positive	<a href="https://doi.org/10.57733/addgene.60y88x">https://doi.org/10.57733/addgene.60y88x</a>
SPR	1 µg/mL	Positive	<a href="https://doi.org/10.57733/addgene.b38ba1">https://doi.org/10.57733/addgene.b38ba1</a>

<sup>‡</sup> Not suitable for WB application.

#### Community Data\*

Application	Lab	Reference
IHC	Karl Murray, Ph.D., NeuroMab	<a href="https://doi.org/10.57733/addgene.ayxizu">https://doi.org/10.57733/addgene.ayxizu</a>

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

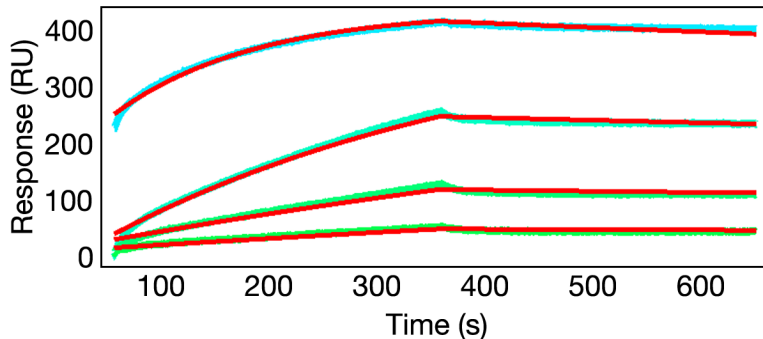
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## Applications

### Surface Plasmon Resonance (SPR)

Anti-Neurexin-2-alpha [IPI-mNRXN2a.32]

Addgene #237808



Kinetic Parameters

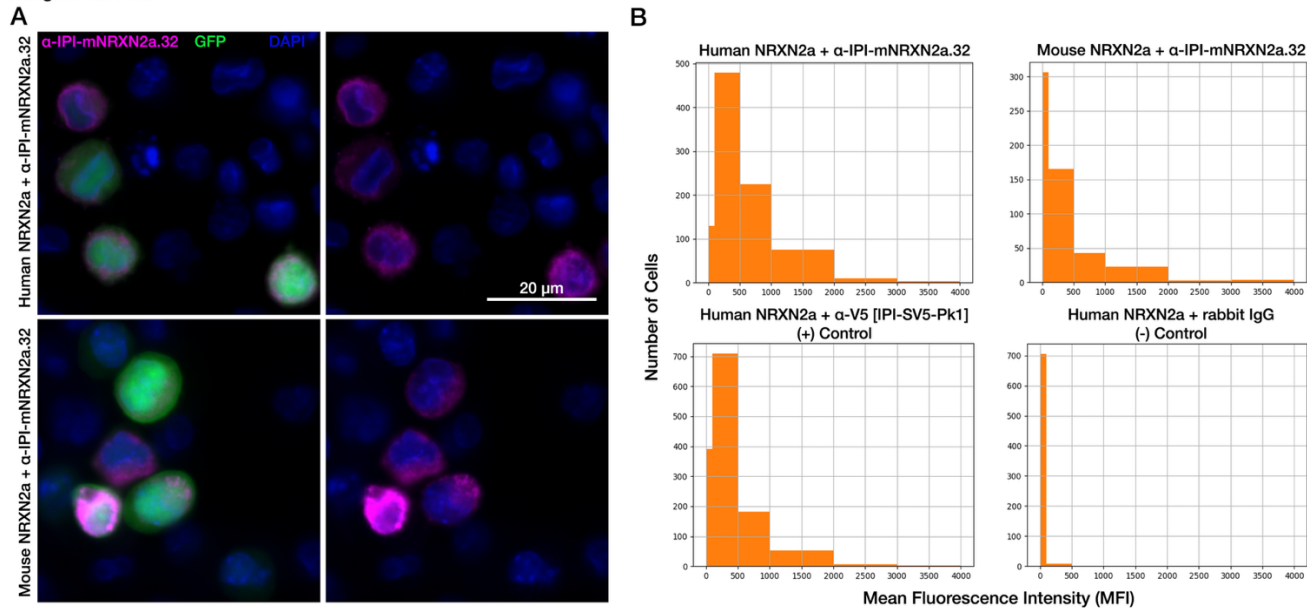
$k_a$ ( $M^{-1}s^{-1}$ )	$k_d$ ( $s^{-1}$ )	$K_D$ (M)
$6.80 \times 10^4$	$2.60 \times 10^{-4}$	$3.80 \times 10^{-9}$

**Surface Plasmon Resonance (SPR) kinetics analysis of the interaction between Anti-Neurexin-2-alpha [IPI-mNRXN2a.32] and *M. musculus* (mouse) NRXN2a.** 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 CaCl<sub>2</sub>, 1 mM MgCl<sub>2</sub>, 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. doi: <https://doi.org/10.57733/addgene.b38ba1>

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## Immunofluorescence (IF) – Species Reactivity

Anti-Neurexin-2-alpha [IPI-mNRXN2a.32]  
Addgene #237808



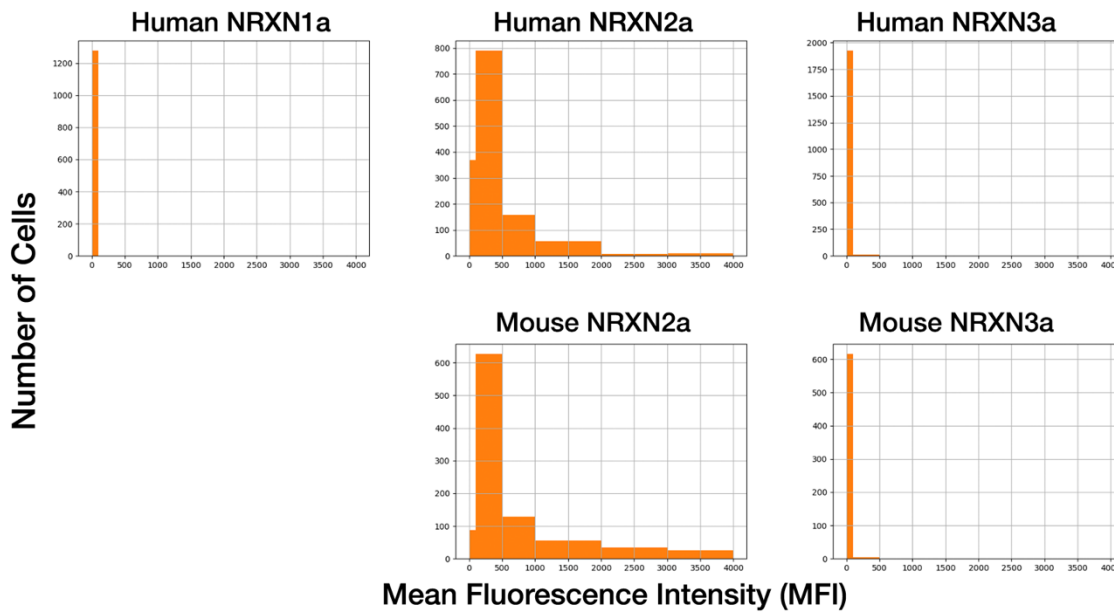
**Anti-Neurexin-2-alpha [IPI-mNRXN2a.32] (Addgene#237808) shows binding to human and mouse NRXN2a.** A) Immunofluorescence (IF) of ExpiCHO cells transfected with human (top) and mouse (bottom) NRXN2a. Widefield images taken at 40X magnification on an EVOS-m7000 microscope and deconvolved using the richardson-lucy algorithm in the FIJI deconlab plugin. Left images show all 3 channels (IPI-mNRXN2a.32, GFP (transfection control) and DAPI) while the right images only show IPI-mNRXN2a.32 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.32 staining, was recorded. Each histogram displays the number of cells with MFIs ranging from below 100 (background fluorescence) to 4095 (saturation). IPI-mNRXN2a.32 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.32 was used at 1 ug/mL (1:1000 dilution). doi: <https://doi.org/10.57733/addgene.x7fj0e>

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**Immunofluorescence (IF) – Target Specificity**

**Anti-Neurexin-2-alpha [IPI-mNRXN2a.32]**

**Addgene #237808**



**NRXN Specificity**

	NRXN1		NRXN2		NRXN3		
	Hu	Mo	Hu	Mo	Hu	Mo	
IPI-mNRXN2a.32			++	++			Strong ++
							Weak +
							None

**Anti-Neurexin-2-alpha [IPI-mNRXN2a.32] (Addgene#237808) 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.32 staining, was recorded. Each histogram displays the number of cells with MFIs ranging from below 100 (background fluorescence) to 4095 (saturation). IPI-mNRXN2a.32 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.32 was used at 1 ug/mL (1:1,000 dilution). <https://doi.org/10.57733/addgene.60y88x>

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## **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.

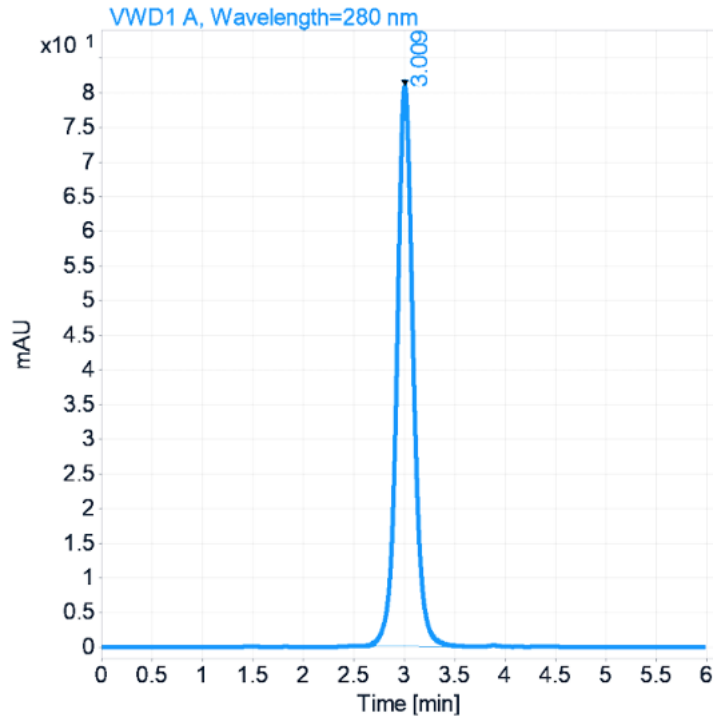
	<b>HC MW (Da) <i>Calculated</i></b>	<b>HC MW (Da) <i>Observed</i></b>	<b>HC MW (Da) <i>Delta</i></b>	<b>LC MW (Da) <i>Calculated</i></b>	<b>LC MW (Da) <i>Observed</i></b>	<b>LC MW (Da) <i>Delta</i></b>
<b>IPI-mNRXN2a.32</b>	50124.03	50127.3	3.27	23817.44	23817.2	-0.24

**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.

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



	RT (min)	Width (min)	Area	Height	Area %	Result
<b>IPI-mNRXN2a.32</b>	3.009	0.1719	913.8363	80.8238	100	Pass

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## **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)

```
DYKDDDDKGSGLFEGGGPGQWARYARWAGAASTGELSFSLRTNATRALLLYLDDGGDCDFLELLLVDG
RLRLRFTLSCAEPATLQLDTPVADDRWHMVLLTRDARRTALAVDGEARAAEVRSKRREMQVASDLFVGG
IPPDVRLSALTSTVKYEPFRGLLANLKLGERPPALLGSQGLRGAAADPLCAPARNPCANGGLCTVLAP
GEVGCDCSHTGFGGKFCSEEEHPMEGPAHLTLNSEVGSLLFSEGGAGRGGAGDVHQPTKGKEEFVATF
KGNEFFCYDLSHNPIQSSTDEITLAFRTLQRNGLMLHTGKSADYVNLKSLKSGAVWLVINLGS GA FEALVE
PVNGKFNDNAWHDVTRNLRQHAGIGHAMVNLHVLVTISVDGILTTTGYTQEDYTMLGSDDFFYIGG
SPNTADLPGSPVSNFMGCLKDVVYKNNDFKLELSRLAKEGDPKMKLQGDLSFRCGSGGLNDIFEAQKI
EWHEGSGHHHHHHHHH
```

### **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.32] in binding assay. Addgene. <https://doi.org/10.57733/addgene.x7fj0e>
2. A. Morano, T. Riedel, and D. Moshinsky. (2026). ICC/IF for Anti-Neurexin-2-alpha [IPI-mNRXN2a.32] in specificity assay. Addgene. <https://doi.org/10.57733/addgene.60y88x>
3. A. Kachare, M. Anuganti, T. Riedel, and D. Moshinsky. (2026). Anti-Neurexin-2-alpha [IPI-mNRXN2a.32] in Surface Plasmon Resonance (SPR). Addgene. <https://doi.org/10.57733/addgene.b38ba1>
4. K. Murray. (2026). IHC for IPI-mNRXN2a.32. Addgene. <https://doi.org/10.57733/addgene.ayxizu>

## **How to cite this antibody:**

Anti-Neurexin-2-alpha [IPI-mNRXN2a.32] - from Institute for Protein Innovation (IPI) (Addgene #237808; <http://n2t.net/addgene:237808>; RRID: AB\_3678706).

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

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