

Product Datasheet

[Anti-IGDCC3 \(PUNC\) \[IPI-mIGDCC3.13\]](#)

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

Overview

Antigen	IGDCC3 (PUNC)
Immunogen	Purified recombinant fragment of Mouse IGDCC3, corresponding to AA: 48-430.
Host/isotype	Rabbit/IgG
Clonality	Recombinant monoclonal
Clone name	IPI-mIGDCC3.13
RRID	AB_3698386
IPI ID	TAB0010975-013-002
Specificity	PUNC; Does not recognize related family members (DCC, NEO, PRTG)
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
Flow	0.66-100 µg/mL	Positive	https://doi.org/10.57733/addgene.tsyz07
IF – Binding	1 µg/mL	Positive	https://doi.org/10.57733/addgene.2gfql2
IF – Specificity	1 µg/mL	Positive	https://doi.org/10.57733/addgene.vqtx1d

[‡] Not suitable for WB application.

Community Data*

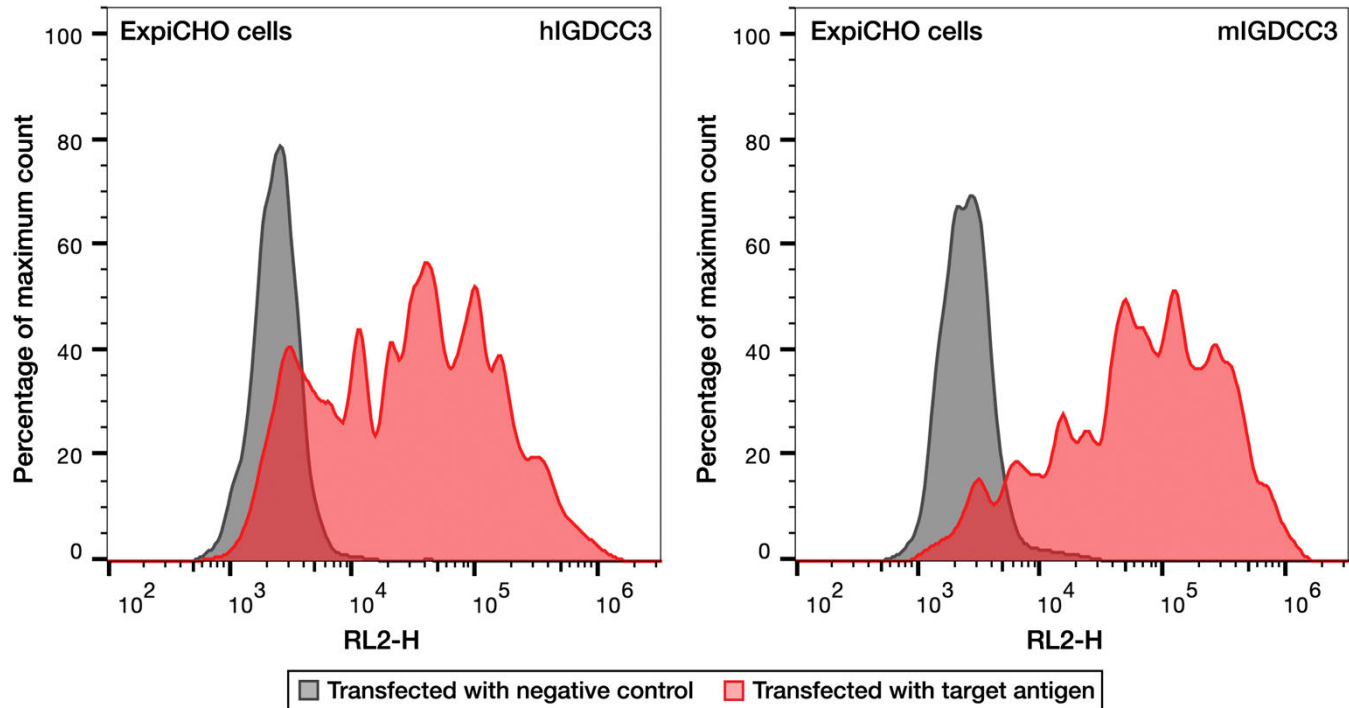
Application	Lab	Reference
IF	Alex Jaworski, Ph.D., Brown University	https://doi.org/10.57733/addgene.4g9xie
IHC-KO	Alex Jaworski, Ph.D., Brown University	https://doi.org/10.57733/addgene.5co5wr

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

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Applications

Flow cytometry



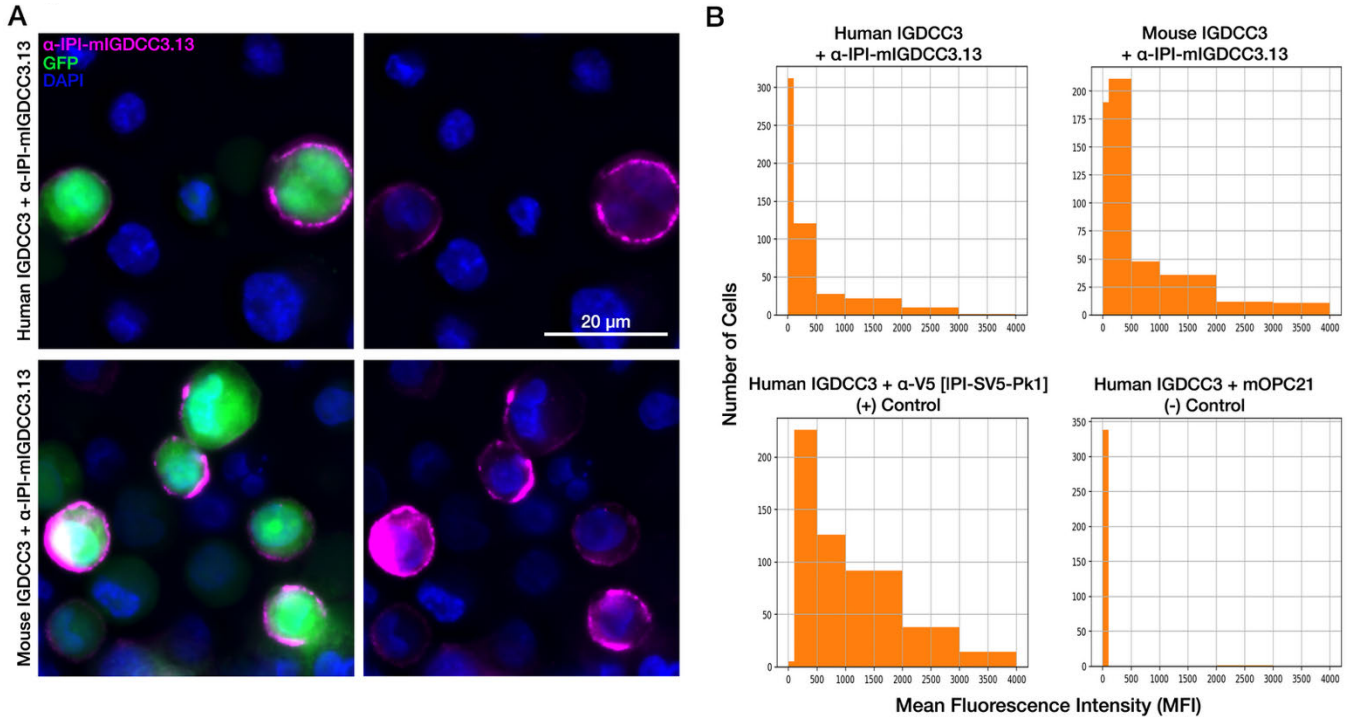
Anti-IGDCC3 (PUNC) [IPI-mIGDCC3.13] (Addgene #241897) recognizes human and mouse IGDCC3.

Histogram from FACS analysis on ExpiCHO cells transfected with human or mouse IGDCC3 (red), or B7H3 negative control (gray). Cells expressing human (left panel) or mouse (right panel) IGDCC3 were labeled with Anti-IGDCC3 (PUNC) [IPI-mIGDCC3.13] and Alexa Fluor 647 F(ab')₂ goat anti-rabbit IgG, Fc fragment specific (Jackson ImmunoResearch, 111-606-046). Labeled cells were analyzed with an Intellicyt iQue Screener Plus flow cytometer. Histograms were generated for the 15 ug/mL antibody concentration and normalized to mode using FlowJo™ v10. doi: <https://doi.org/10.57733/addgene.tsyz07>

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 IGDCC3 showed reactivity towards human and mouse IGDCC3 with observed EC₅₀ values of 2.07 nM and 1.56 nM for human and mouse IGDCC3, respectively.

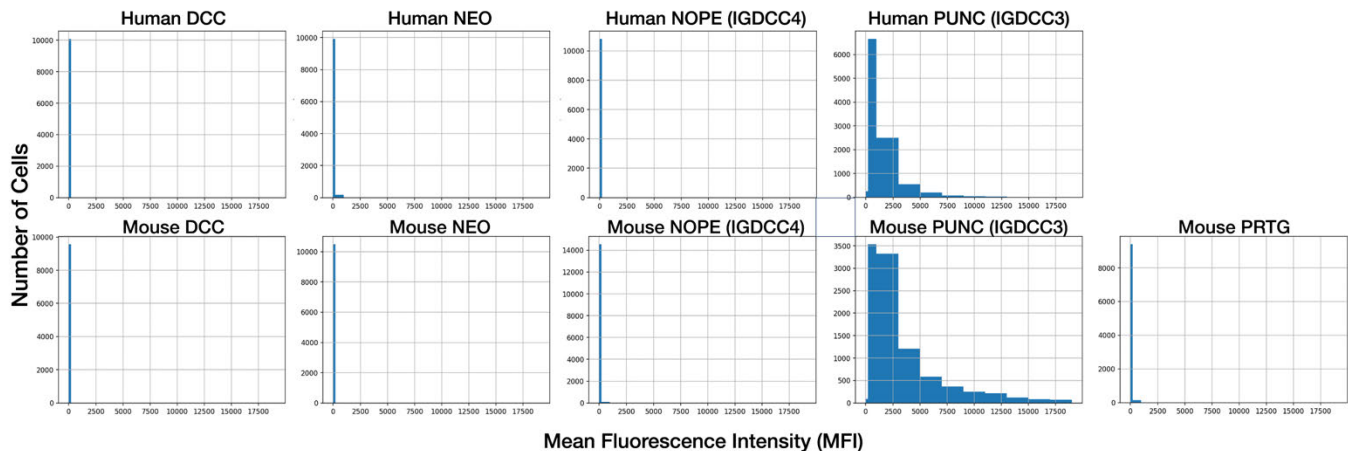
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Immunofluorescence (IF) – Species Reactivity



Anti-IGDCC3 (PUNC) [IPI-mIGDCC3.13] (Addgene #241897) recognizes human and mouse IGDCC3. A) Immunofluorescence (IF) of ExpiCHO cells transfected with human (top row) or mouse (bottom row) IGDCC3 stained with IPI-mIGDCC3.13 (magenta). Confocal images taken at 40X magnification on an EVOSm7000 microscope and deconvolved using the Lucy-Richardson algorithm. Scale bar = 20 μm. 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-mIGDCC3.13 staining, was recorded. Each histogram displays the number of cells with MFIs ranging from below 100 (background fluorescence) to 4095 (saturation). IPI-mIGDCC3.13 staining of human and mouse IGDCC3 is shown in the top row, and compared to a positive (left) and negative (right) control in the bottom row. For both panels, IPI-IGDCC3.13 was used at 1 μg/mL (1:1,000 dilution). doi: <https://doi.org/10.57733/addgene.2qfql2>

Immunofluorescence (IF) – Target Specificity



		IGDCC3 Specificity												
		DCC		NEO		IGDCC4		IGDCC3		PRTG				
		Hu	Mo	Hu	Mo	Hu	Mo	Hu	Mo	Hu	Mo			
IPI-mIGDCC3.13								++	++			Strong	++	
												Weak	+	
												None		

Anti-IGDCC3 (PUNC) [IPI-mIGDCC3.13] (Addgene #241897) is specific for human and mouse IGDCC3. Each graph depicts the combined quantification of multiple images of the same transfected cells taken at 10X magnification. GFP- or BFP- 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-mIGDCC3.13 staining, was recorded. Each histogram displays the number of cells with MFIs ranging from below 100 (background fluorescence) to 18000 (saturation). IPI-mIGDCC3.13 staining of human and mouse variants of each IGDCC family member is compared on the top and bottom rows. To test family-wide cross-reactivity, IPI-mIGDCC3.13 was used at 1 ug/mL (1:1,000 dilution). doi: <https://doi.org/10.57733/addgene.vqtx1d>

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.

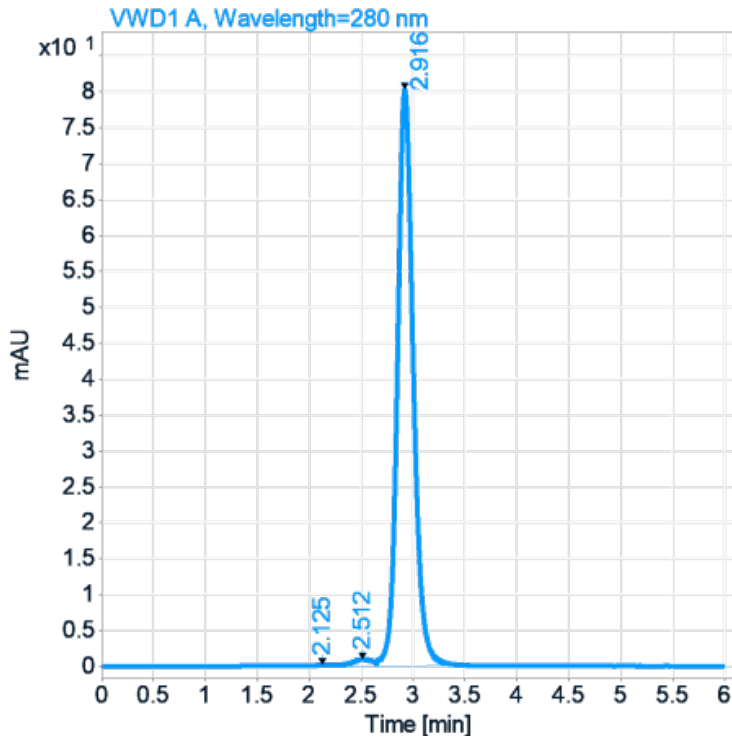
	HC MW (Da) <i>Calculated</i>	HC MW (Da) <i>Observed</i>	HC MW (Da) <i>Delta</i>	LC MW (Da) <i>Calculated</i>	LC MW (Da) <i>Observed</i>	LC MW (Da) <i>Delta</i>
IPI-mIGDCC3.13	49382.78	49390.80	8.02	22618.98	22618.12	-0.86

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
IPI-mIGDCC3.13	2.916	0.1765	850.8094	80.3366	98.0871	Pass

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Antigen Details

Immunogen design:

cDNA of Mouse IGDCC3 (PUNC) 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 IGDCC3 (AA: 48-430):

LGHSAELAFSVEPNDDIANPGQPIVLGCKVEGTPPVQVSWRKNGAELPEGTHHTLLANGSLLIHHFRLEQ
GGSPSDEGDYECVAQNRFGLLVSRKARLQAATMSDFHVHPQAVTGEEGGVARFQCQIHGLPKPLITWE
KNRVPIDTDDERYTLLPKGVLQITGLRAEDSGIFHCVASNIASVRVSHGARLTVSGSGSGTYKEPTILVGPE
NLTLTVHQTAVLECVATGNRPPIVSWSRLDGRPIGVEGIQVLGTGNLIISDVTVQHSVYVCAANRPGTRV
RRTAQGRLLVQAPAEFVQHPQSISRPAAGTTAMFTCQAQGEPPPHVTWLKNGQVLGAGGHVRLKNNNS
TLSISGVPEDAIYQCVAENIAGSSQASARLTVLGSVDYKDDDDKGGGLNDIFEAQKIEWHEGSGHHH
HHHHH

Sequence information:

HUGO: MGI:1202390
Uniprot: Q8BQC3
Refseq: NM_008988.2

Structural information:

Topology: Single-pass type I membrane protein
PDB IDs: -
AlphaFold: AF-Q8BQC3-F1

Expression profiles:

Human Protein Atlas ENSMUSG00000032394

References

1. Z. Anderson, H. Li, T. Riedel, H. Zhu and D. Moshinsky. (2025). Flow Cytometry for Anti-IGDCC3 (PUNC) [IPI-mIGDCC3.13]. Addgene. <https://doi.org/10.57733/addgene.tsyz07>
2. A. Morano, T. Riedel, and D. Moshinsky. (2025). ICC/IF for Anti-IGDCC3 (PUNC) [IPI-mIGDCC3.13] in binding assay. Addgene. <https://doi.org/10.57733/addgene.2gfgl2>
3. A. Morano, T. Riedel, and D. Moshinsky. (2025). ICC/IF for Anti-IGDCC3 (PUNC) [IPI-mIGDCC3.13] in specificity assay. Addgene. <https://doi.org/10.57733/addgene.vqtx1d>
4. A. Jaworski. (2025). IHC-KO for Anti-IGDCC3 (PUNC) [IPI-mIGDCC3.13]. Addgene. <https://doi.org/10.57733/addgene.5co5wr>
5. A. Jaworski. (2025). ICC/IF for Anti-IGDCC3 (PUNC) [IPI-mIGDCC3.13]. Addgene. <https://doi.org/10.57733/addgene.4g9xie>

How to cite this antibody:

Anti-IGDCC3 (PUNC) [IPI-mIGDCC3.13] - from Institute for Protein Innovation (IPI) (Addgene #241897; <http://n2t.net/addgene:241897>; RRID: AB_3698386).

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