Product Datasheet

Anti-IGDCC3 (PUNC) [IPI-IGDCC3.27]

Applications | Antibody Details | Antigen Details | References

Overview

Antigen	IGDCC3 (PUNC)
Immunogen	Purified recombinant fragment of Human IGDCC3, corresponding to AA: 36-418.
Host/isotype	Rabbit/IgG
Clonality	Recombinant monoclonal
Clone name	IPI-IGDCC3.27
RRID	AB_3698385
IPI ID	TAB0010919-013-002
Specificity	PUNC; Does not recognize related family members (DCC, NEO, PRTG)
Species reactivity	Human and mouse
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.o3di8z
IF – Binding	10 µg/mL	Positive	https://doi.org/10.57733/addgene.abj1d1
IF – Specificity	10 µg/mL	Positive	https://doi.org/10.57733/addgene.6tx3ps

‡ Not suitable for WB application.

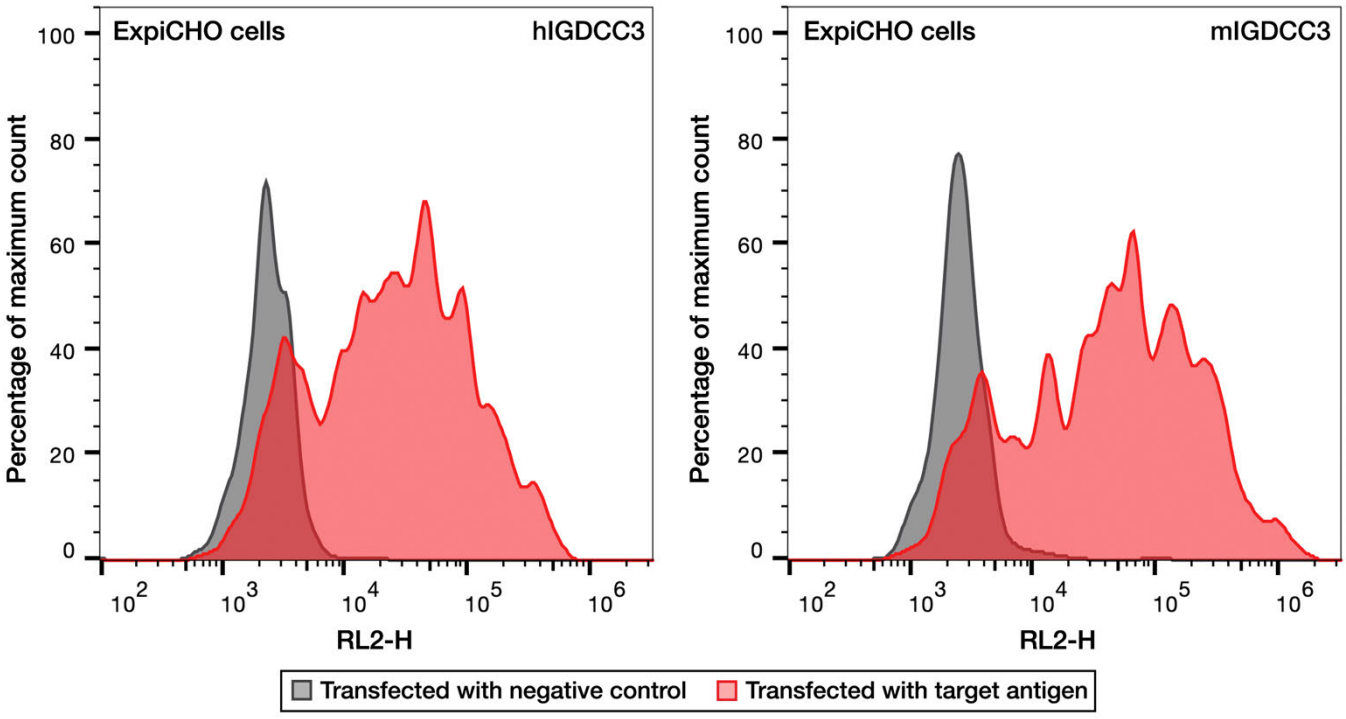
Community Data*

Application	Lab	Reference
IF	Alex Jaworski, Ph.D., Brown University	https://doi.org/10.57733/addgene.h6kmyi
IHC-KO	Alex Jaworski, Ph.D., Brown University	https://doi.org/10.57733/addgene.3os018

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

Applications

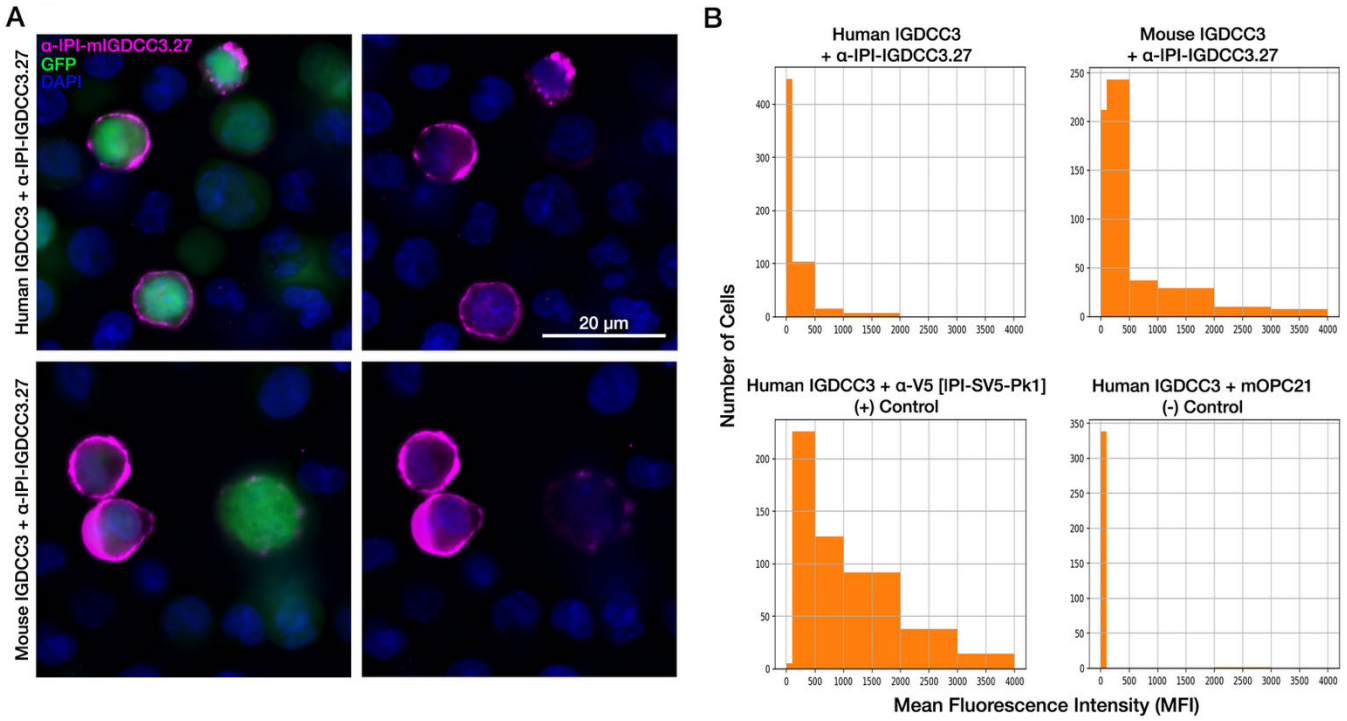
Flow cytometry



Anti-IGDCC3 (PUNC) [IPI-IGDCC3.27] (Addgene #241896) 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-IGDCC3.27] 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.o3di8z

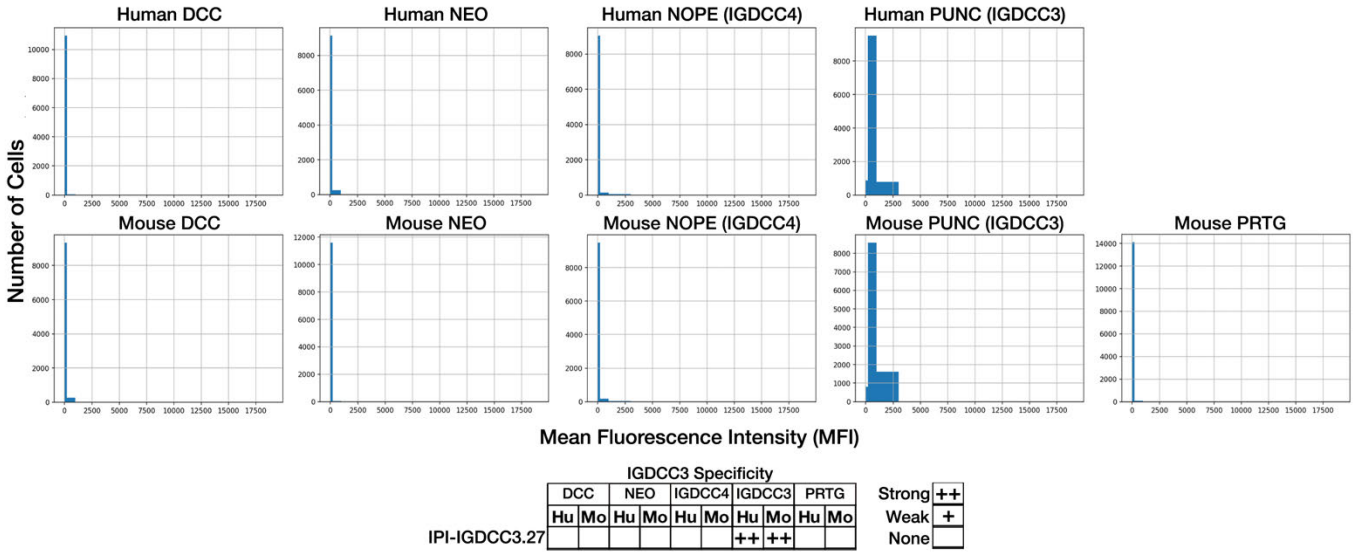
EC_{50} (data not shown): A fourteen-point titration of antibody concentrations, ranging from 660 nM (0.1 mg/mL) to 4.42 pM with a 1:2.5 dilution factor, against human and mouse IGDCC3 showed reactivity towards human and mouse IGDCC3 with observed EC_{50} values of 15.85 nM and 10.18 nM for human and mouse IGDCC3, respectively.

Immunofluorescence (IF) – Species Reactivity



Anti-IGDCC3 (PUNC) [IPI-IGDCC3.27] (Addgene #241896) recognizes human and mouse IGDCC3. A) Immunofluorescence (IF) of ExpiCHO cells transfected with human (top row) or mouse (bottom row) IGDCC3 stained with IPI-IGDCC3.27 (magenta). Confocal images taken at 40X magnification on an EVOSm7000 microscope and deconvolved using the Lucy-Richardson algorithm. Scale bar = 20 uM. 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-IGDCC3.27 staining, was recorded. Each histogram displays the number of cells with MFIs ranging from below 100 (background fluorescence) to 4095 (saturation). IPI-IGDCC3.27 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-IGDCC3.27 was used at 10 ug/mL (1:100 dilution). doi: https://doi.org/10.57733/addgene.abj1d1

Immunofluorescence (IF) – Target Specificity



IGDCC3 Specificity

	DCC		NEO		IGDCC4		IGDCC3		PRTG	
	Hu	Mo	Hu	Mo	Hu	Mo	Hu	Mo	Hu	Mo
IPI-IGDCC3.27							++	++		

Strong ++
Weak +
None

Anti-IGDCC3 (PUNC) [IPI-IGDCC3.27] (Addgene #241896) is specific for mouse and human 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-IGDCC3.27 staining, was recorded. Each histogram displays the number of cells with MFIs ranging from below 100 (background fluorescence) to 18000 (saturation). IPI-IGDCC3.27 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-IGDCC3.27was used at 10 ug/mL (1:100 dilution). doi: https://doi.org/10.57733/addgene.6tx3ps

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

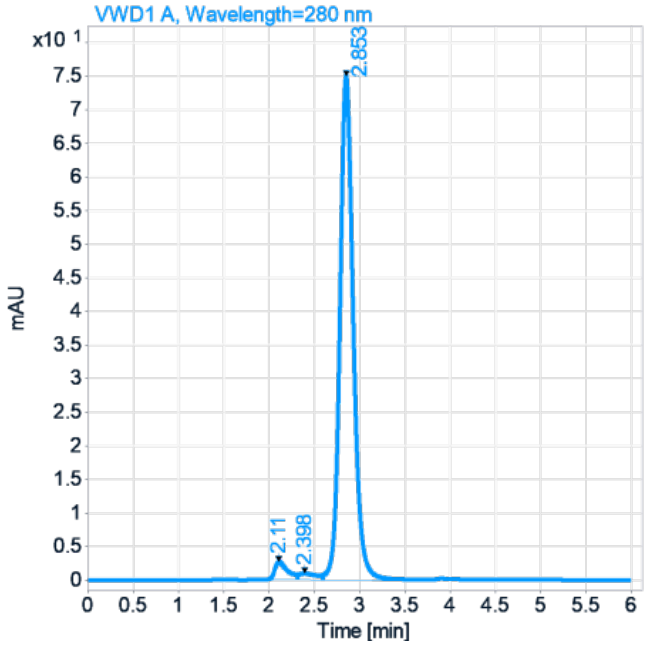
LC-MS: Intact mass analysis via LC-MS methods allows for confirmation antibody mass, and to identify any product-related variants such as glycosylation. Before conducting intact mass analysis via LC-MS, the antibody was reduced to its heavy chain (HC) and light chain (LC). This process allows for confirmation 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-IGDCC3.27	49690.05	49697.50	7.45	22952.43	22951.99	-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-IGDCC3.27	2.853	0.1720	774.3220	75.0320	95.1169	Pass

Antigen Details

Immunogen design:

cDNA of Human IGDCC3 (PUNC) with C-terminal HA-, Avi-, and His-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:

>Human IGDCC3 (AA: 36-418):
LGHSAELAFAVEPSDDVAVPGQPIVLDCRVEGTPPVRITWRKNGVELPESTHSTLLANGSLMIRHFRLEP
GGSPSDEGDYECVAQNRFGLVVSRKARIQAATMSDFHVHPQATVGEEGGVARFQCQIHGLPKPLITWEK
NRVPIDTDNERYTLLPKGVLQITGLRAEDGGIFHCVASNIASIRISHGARLTVSGSGSGAYKEPAILVGPENL
TLTVHQTAVLECVATGNPRPIVSWSRLDGRPIGVEGIQVLGTGNLIISDVTVQHSGVYVCAANRPGTRVRR
TAQGRLVVQAPAEFVQHPQSISRPAGTTAMFTCQAQGEPPPHVTWLKNGQVLGPGGHVRLKNNNSTLT
ISGIGPEDEAIYQCVAENSAGSSQASARLTVLGSGYPYDVPDYAGSGGLNDIFEAQKIEWHEGSGHHHH
HHHH

Sequence information:

HUGO:	9700
Uniprot:	Q8IVU1
Refseq:	NM_004884.4

Structural information:

Topology:	Single-pass type I membrane protein
PDB IDs:	-
Alphafold:	AF-Q8IVU1-F1

Expression profiles:

Human Protein Atlas ENSG00000174498

References

1. Z. Anderson, H. Li, T. Riedel, H. Zhu and D. Moshinsky. (2025). Flow Cytometry for Anti-IGDCC3 (PUNC) [IPI-IGDCC3.27]. Addgene. https://doi.org/10.57733/addgene.o3di8z
2. A. Morano, T. Riedel, and D. Moshinsky. (2025). ICC/IF for Anti-IGDCC3 (PUNC) [IPI-IGDCC3.27] in binding assay. Addgene. https://doi.org/10.57733/addgene.abj1d1
3. A. Morano, T. Riedel, and D. Moshinsky. (2025). ICC/IF for Anti-IGDCC3 (PUNC) [IPI-IGDCC3.27] in specificity assay. Addgene. https://doi.org/10.57733/addgene.6tx3ps
4. A. Jaworski. (2025). IHC-KO for Anti-IGDCC3 (PUNC) [IPI-IGDCC3.27]. Addgene. https://doi.org/10.57733/addgene.3os018
5. A. Jaworski. (2025). ICC/IF for Anti-IGDCC3 (PUNC) [IPI-IGDCC3.27]. Addgene. https://doi.org/10.57733/addgene.h6kmyi

How to cite this antibody:
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