**GFP Polyclonal Antibody, Alexa Fluor™ 488**

**Catalog Number** A-21311

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**Details**

<table>
<thead>
<tr>
<th>Size</th>
<th>100 µL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Host/Isotope</td>
<td>Rabbit / IgG</td>
</tr>
<tr>
<td>Class</td>
<td>Polyclonal</td>
</tr>
<tr>
<td>Type</td>
<td>Antibody</td>
</tr>
<tr>
<td>Immunogen</td>
<td>The GFP was isolated directly from the jellyfish Aequorea victoria.</td>
</tr>
<tr>
<td>Conjugate</td>
<td>Alexa Fluor™ 488</td>
</tr>
<tr>
<td>Concentration</td>
<td>2 mg/mL</td>
</tr>
<tr>
<td>Purification</td>
<td>IgG fraction</td>
</tr>
<tr>
<td>Storage buffer</td>
<td>PBS, pH 7.5</td>
</tr>
<tr>
<td>Contains</td>
<td>5mM sodium azide</td>
</tr>
<tr>
<td>Storage Conditions</td>
<td>4° C, store in dark</td>
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**Species Reactivity**

<table>
<thead>
<tr>
<th>Species Reactivity</th>
<th>Tag</th>
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<tbody>
<tr>
<td>Published species</td>
<td>Tag, Mouse</td>
</tr>
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**Tested Applications**

<table>
<thead>
<tr>
<th>Dilution *</th>
<th>Immunohistochemistry (IHC)</th>
<th>1,200-1,000</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Western Blot (WB)</td>
<td>1,2,000</td>
</tr>
<tr>
<td></td>
<td>Immunocytochemistry (ICC/IF)</td>
<td>1-10 µg/mL</td>
</tr>
</tbody>
</table>

**Published Applications**

<table>
<thead>
<tr>
<th>Published Applications</th>
<th>Dilution *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immunohistochemistry (IHC)</td>
<td>See 154 publications below</td>
</tr>
<tr>
<td>Immunocytochemistry (ICC/IF)</td>
<td>See 48 publications below</td>
</tr>
<tr>
<td>Flow Cytometry (Flow)</td>
<td>See 11 publications below</td>
</tr>
<tr>
<td>Western Blot (WB)</td>
<td>See 4 publications below</td>
</tr>
<tr>
<td>Immunohistochemistry (Paraffin)</td>
<td>See 6 publications below</td>
</tr>
<tr>
<td>Miscellaneous PubMed (Misc)</td>
<td>See 10 publications below</td>
</tr>
<tr>
<td>ChIP assay (ChIP)</td>
<td>See 1 publications below</td>
</tr>
<tr>
<td>Immunohistochemistry - Free Floating (IHC (Free))</td>
<td>See 3 publications below</td>
</tr>
</tbody>
</table>

*Suggested working dilutions are given as a guide only. It is recommended that the user titrate the product for use in their own experiment using appropriate negative and positive controls.

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**Background/Target Information**

The jellyfish Aequorea victoria contains green fluorescent protein (GFP Tag) that emits light in the bioluminescence reaction of the animal. GFP has been used widely as a reporter protein for gene expression in eukaryotic and prokaryotic organisms, and as a protein tag in cell culture and in multicellular organisms. As a fusion tag, GFP can be used to localize proteins, to study their movement or to research the dynamics of the subcellular compartments where these proteins are targeted. GFP technology has revealed considerable new insights in the physiological activities of living cells. GFP is a 27 kDa monomeric protein, which autocatalytically forms a fluorescent pigment. The wild type protein absorbs blue light (maximally at 395nm) and emits green light (peak emission 508nm) in the absence of additional proteins, substrates, or co-factors. GFP fluorescence is stable, species independent and is suitable for a variety of applications. GFP has been used extensively as a fluorescent tag to monitor gene expression and protein localization. Moreover, other applications for GFP include its use in assessing protein protein interactions in the yeast two hybrid system, and in measuring distances between proteins in fluorescence energy transfer (FRET) experiments.


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Western Blot was performed using Anti-GFP Polyclonal Antibody, Alexa Fluor 488 (Product # A-21311) by loading whole cell extracts of untransfected and transiently transfected HEK-293E lysates: untransfected, 40 µg (Lane 1), empty vector control, 40 µg (Lane 2), p65-GFP, 40 µg (Lane 3), His-p65-YFP, 40 µg (Lane 4), H3-mCherry, 40 µg (Lane 5) and 25 ng Positope (Lane 6) were electrophoresed using NuPAGE™ 4-12% Bis-Tris Protein Gel (Product # NP0322BOX). Resolved proteins were then transferred onto a nitrocellulose membrane (Product # IB23001) by iBlot® 2 Dry Blotting System (Product # IB21001). A ~92 kDa band of p65-GFP were observed in transfected lysates on probing with primary antibody (1:2000 dilution) and and detected by chemiluminescence with Goat anti-Rabbit IgG (H+L) Superclonal™ Secondary Antibody, HRP (Product # A27036, 1:4000 dilution) using the iBright FL 1500 (Product # A44241). Chemiluminescent detection was performed using Novex® ECL Chemiluminescent Substrate Reagent Kit (Product # WP20005). Positope (Product # R90050) is a 53 kDa recombinant protein consisting multiple epitope tags, which has been used as a positive control for GFP detection. This product also detects Yellow Fluorescent Protein (YFP), a variant of GFP as observed in Lane 4. No cross-reactivity was seen with mCherry (RFP family) expressing lysate.
### PubMed References For GFP Polyclonal Antibody, Alexa Fluor™ 488

#### 154 Immunohistochemistry References

<table>
<thead>
<tr>
<th>Species / Dilution</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tag / 1:200</strong></td>
<td>A-21311 was used in Immunohistochemistry to show that this Tg mouse line contributes a valuable model to study angiogenesis and lymphangiogenesis in physiological and pathological contexts.</td>
</tr>
</tbody>
</table>
|                    | PloS one (Sep 2019; 14: )  
"Generating Vegfr3 reporter transgenic mouse expressing membrane-tagged Venus for visualization of VEGFR3 expression in vascular and lymphatic endothelial cells."  
Author(s): Watanabe C, Matsushita J, Azami T, Tsukiyama-Fujii S, Tsukiyama T, Mizuno S, Takahashi S, Ema M  
PubMed Article URL: dx.doi.org/10.1371/journal.pone.0210060 |
| **Tag / 1:1000**   | A-21311 was used in immunohistochemistry to use a zebrafish model to examine the impact of altered dopamine signaling on brain development and larval motor behavior. |
"Dopamine D2 receptor activity modulates Akt signaling and alters GABAergic neuron development and motor behavior in zebrafish larvae."  
Author(s): Souza BR, Romano-Silva MA, Tropepe V  
PubMed Article URL: dx.doi.org/10.1523/JNEUROSCI.5548-10.2011 |
| **Tag / 1:1000**   | A-21311 was used in immunohistochemistry to study the role of photoreceptors in directing the differentiation of bipolar cells |
|                    | The Journal of neuroscience : the official journal of the Society for Neuroscience (Feb 2010; 30: 1677)  
"Role of afferents in the differentiation of bipolar cells in the mouse retina."  
Author(s): Keeley PW, Reese BE  
PubMed Article URL: dx.doi.org/10.1523/JNEUROSCI.5153-09.2010 |
| **Tag / Not Cited**| A-21311 was used in Immunohistochemistry to study the expression and role of APC/C coactivator genes CDC20 and CCSS2B in cell cycle control in Arabidopsis. |
|                    | Molecular cell (Dec 2017; 68: 1108)  
"Cell Cycle Control by Nuclear Sequestration of CDC20 and CDH1 mRNA in Plant Stem Cells."  
Author(s): Yang W, Wightman R, Meyerowitz EM  
PubMed Article URL: dx.doi.org/10.1016/j.molcel.2017.11.008 |
| **Tag / Not Cited**| A-21311 was used in Immunohistochemistry-immunofluorescence to study the effect of drugs such as doxycycline and milbemycin in reducing cancer stem cell populations. |
|                    | Oncotarget (Feb 2017; 8: 9868)  
"Targeting cancer stem cell propagation with milbemycin, a CDK4/6 inhibitor: Telomerase drives tumor cell heterogeneity."  
Author(s): Bonuccelli G, Peris-Pages M, Oszvari B, Martinez-Outschoorn UE, Sotgia F, Lisanti MP  
PubMed Article URL: dx.doi.org/10.18632/oncotarget.14196 |
| **Tag / 1:300**    | A-21311 was used in immunohistochemistry to report that vein-derived endothelial tip cells contribute to emerging arteries in zebrafish |
|                    | Nature communications (Dec 2014; 5: )  
"Arteries are formed by vein-derived endothelial tip cells."  
Author(s): Xu C, Hasan SS, Schmidt I, Rocha SF, Pitchescu ME, Bussmann J, Meyen D, Raz E, Adams RH, Siekmann AF  
PubMed Article URL: dx.doi.org/10.1038/ncomms6758 |
| **Tag / Not Cited**| A-21311 was used in Immunohistochemistry to describe a novel intermuscular fat transplant model in the mouse rotator cuff to investigate cross-talk between muscle and adipose tissue. |
"Brown Fat Promotes Muscle Growth During Regeneration."  
Author(s): Bryniarski AR, Meyer GA  
PubMed Article URL: dx.doi.org/10.1002/jor.24324 |
A-21311 was used in Immunohistochemistry-immunofluorescence to study the development of mucosal-associated invariant T cells and its effect on MAIT cell development using adult cutaneous MAIT cells.

Tag / Not Cited
Science (New York, N.Y.) (Oct 2019; 366: )
"MAIT cells are imprinted by the microbiota in early life and promote tissue repair."
PubMed Article URL:http://dx.doi.org/10.1126/science.aax6624

Tag / Not Cited
Communications biology (Mar 2021; 4: )
"Pocket MUSE: an affordable, versatile and high-performance fluorescence microscope using a smartphone."
Author(s): Liu Y, Rollins AM, Levenson RM, Fareidouni F, Jenkins MW
PubMed Article URL:http://dx.doi.org/10.1038/s42003-021-01860-5

Tag / 1:500
The Journal of comparative neurology (Jan 2019; 527: 133)
"Multiple cell types form the VIP amacrine cell population."
Author(s): Pérez de Sevilla Müller L, Solomon A, Sheets K, Hapukeno H, Rodríguez AR, Brecha NC
PubMed Article URL:http://dx.doi.org/10.1002/cne.24234

Tag / 1:100
"Distinct features of brain perivascular fibroblasts and mural cells revealed by <i>in vivo</i>/<i>b</i> two-photon imaging."
Author(s): Bonney SK, Sullivan LT, Cherry TJ, Daneman R, Shih AY
PubMed Article URL:http://dx.doi.org/10.1177/0271678X211068528

Tag / Not Cited
Molecular psychiatry (Jun 2022; 27: 2879)
"Enkephalin release from VIP interneurons in the hippocampal CA2/3a region mediates heterosynaptic plasticity and social memory."
Author(s): Leroy F, de Solis CA, Boyle LM, Bock T, Lofaro OM, Buss EW, Asok A, Kandel ER, Siegelbaum SA
PubMed Article URL:http://dx.doi.org/10.1038/s41380-021-01124-y

Tag / 1:400
Nature (Jul 2020; 583: 441)
"Microbiota modulate sympathetic neurons via a gut-brain circuit."
PubMed Article URL:http://dx.doi.org/10.1038/s41586-020-2474-7

Tag / 1:1000
The Journal of biological chemistry (May 2007; 282: 15159)
"Microbiota modulate sympathetic neurons: microbiota depletion leads to increased expression of the neuronal transcription factor cFos, and colonization of germ-free mice with bacteria that produce short-chain fatty acids suppresses cFos expression in the gut sympathetic ganglia.

Tag / Not Cited
A-21311 was used in Immunohistochemistry-immunofluorescence to demonstrate the first practical implementation of Microscopy with Ultraviolet Surface Excitation (MUSE) in a compact smartphone microscope called Pocket MUSE.

PubMed Article URL:http://dx.doi.org/10.1038/s42003-021-01860-5

Tag / Not Cited
A-21311 was used in Immunohistochemistry-immunofluorescence to demonstrate the first practical implementation of Microscopy with Ultraviolet Surface Excitation (MUSE) in a compact smartphone microscope called Pocket MUSE.

A-21311 was used in Immunohistochemistry-immunofluorescence to clarify that PVFs and mural cells are distinct cell types coexisting in a similar perivascular niche.

"Distinct features of brain perivascular fibroblasts and mural cells revealed by <i>in vivo</i>/<i>b</i> two-photon imaging."
Author(s): Bonney SK, Sullivan LT, Cherry TJ, Daneman R, Shih AY
PubMed Article URL:http://dx.doi.org/10.1177/0271678X211068528

Molecular psychiatry (Jun 2022; 27: 2879)
"Enkephalin release from VIP interneurons in the hippocampal CA2/3a region mediates heterosynaptic plasticity and social memory."
Author(s): Leroy F, de Solis CA, Boyle LM, Bock T, Lofaro OM, Buss EW, Asok A, Kandel ER, Siegelbaum SA
PubMed Article URL:http://dx.doi.org/10.1038/s41380-021-01124-y

Nature (Jul 2020; 583: 441)
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"Microbiota modulate sympathetic neurons: microbiota depletion leads to increased expression of the neuronal transcription factor cFos, and colonization of germ-free mice with bacteria that produce short-chain fatty acids suppresses cFos expression in the gut sympathetic ganglia.

A-21311 was used in Immunohistochemistry-immunofluorescence to find that the gut microbiome modulates gut-extrinsic sympathetic neurons: microbiota depletion leads to increased expression of the neuronal transcription factor cFos, and colonization of germ-free mice with bacteria that produce short-chain fatty acids suppresses cFos expression in the gut sympathetic ganglia.
A-21311 was used in immunohistochemistry to label olfactory sensory neurons within distinct areas of the olfactory epithelium.

The Journal of comparative neurology (Apr 2003; 458: 209)
"Subzonal organization of olfactory sensory neurons projecting to distinct glomeruli within the mouse olfactory bulb."
Author(s):Levai O,Breer H,Strotmann J
PubMed Article URL:http://dx.doi.org/10.1002/cne.10559

A-21311 was used in immunohistochemistry to demonstrate that Folliculin acts as a gatekeeper that maintains separation of blood and lymphatic vessels by limiting the plasticity of committed endothelial cells.

Nature communications (Dec 2020; 11: )
"Blood and lymphatic systems are segregated by the FLCN tumor suppressor."
PubMed Article URL:http://dx.doi.org/10.1038/s41467-020-20156-6

A-21311 was used in Immunohistochemistry to reveal the diversity of SCs and other cell types in peripheral nerve and serve as a reference for future studies of nerve biology and disease.

Nature neuroscience (Feb 2022; 25: 238)
"Disentangling glial diversity in peripheral nerves at single-nuclei resolution."
PubMed Article URL:http://dx.doi.org/10.1038/s41593-021-01005-1

A-21311 was used in Immunohistochemistry to suggest that cleft alkalinization during neurotransmission, rather than acidification, is a generalizable phenomenon across conventional neuronal synapses.

The Journal of neuroscience : the official journal of the Society for Neuroscience (Feb 2020; 40: 1611)
"Neuronal Glutamatergic Synaptic Clefts Alkalinize Rather Than Acidify during Neurotransmission."
Author(s):Stawarski M,Hernandez RX,Feghli T,Borycz JA,Lu Z,Agarwal AB,Reihl KD,Tavora R,Lau AWC,Meinertzhagen IA,Renden R,Macleod GT
PubMed Article URL:http://dx.doi.org/10.1523/JNEUROSCI.1774-19.2020

A-21311 was used in Immunohistochemistry to study the role of JUN NH2-terminal in mammary gland involution post lactation.

Cell death and differentiation (Sep 2018; 25: 1702)
"The cJUN NH<$sub>2</sub>terminal kinase (JNK) pathway contributes to mouse mammary gland remodeling during involution."
Author(s):Girnius N,Edwards YJK,Davis RJ
PubMed Article URL:http://dx.doi.org/10.1016/j.cldiff.2018.03.002

A-21311 was used in Immunohistochemistry to investigate the effect of coital sensory inputs from those of male Drosophila ejaculate.

Neuron (Jun 2019; 102: 1025)
"A Neural Circuit Encoding the Experience of Copulation in Female Drosophila."
Author(s):Shao L,Chung P,Wong A,Swanowicz I,Kent CF,Long X,Heberlein U
PubMed Article URL:http://dx.doi.org/10.1016/j.neuron.2019.04.009

A-21311 was used in Immunohistochemistry to show that, during homeostasis, the mouse and human meninges contain IgA-secreting plasma cells.

Nature (Nov 2020; 587: 472)
" Gut-educated IgA plasma cells defend the meningeal venous sinuses."
PubMed Article URL:http://dx.doi.org/10.1038/s41586-020-2886-4

A-21311 was used in Immunohistochemistry to show that, during homeostasis, the mouse and human meninges contain IgA-secreting plasma cells.

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PubMed Article URL:http://dx.doi.org/10.1016/j.neuron.2019.04.009

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PubMed Article URL:http://dx.doi.org/10.1016/j.neuron.2019.04.009

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Nature (Nov 2020; 587: 472)
" Gut-educated IgA plasma cells defend the meningeal venous sinuses."
PubMed Article URL:http://dx.doi.org/10.1038/s41586-020-2886-4
A-21311 was used in Immunohistochemistry to propose a novel role for the adrenergic nervous system in regulating circulating lymphocyte responses to viral infection.

Tag / Not Cited

The Journal of experimental medicine (Apr 2020; 217; )
"Cell-intrinsic adrenergic signaling controls the adaptive NK cell response to viral infection."
Author(s):Diaz-Salazar C,Bou-Puerto R,Mujal AM,Lau CM,von Hoeslin M,Zehn D,Sun JC
PubMed Article URL:http://dx.doi.org/10.1084/jem.20190549

A-21311 was used in Immunohistochemistry to uncover an amygdala circuit that mediates momentary arrests in familiar places but not avoidance or anxiety/fear-like behaviors.

Tag / 1:1000

Cell (Oct 2020; 183: 605)
"An Amygdala Circuit Mediates Experience-Dependent Momentary Arrests during Exploration."
Author(s):Botta P,Fushiki A,Vicente AM,Hammond LA,Mosberger AG,Gerfen CR,Peterka D,Costa RM
PubMed Article URL:http://dx.doi.org/10.1016/j.cell.2020.09.023

A-21311 was used in Immunohistochemistry to support a model whereby Ndrg1a is essential for hypoxia adaptation and functions downstream of lactate signaling to induce NKA degradation, a process known to conserve cellular energy.

Tag / 1:500

eLife (Oct 2022; 11; )
"N-myc downstream regulated gene 1 (ndrg1) functions as a molecular switch for cellular adaptation to hypoxia."
PubMed Article URL:http://dx.doi.org/10.7554/eLife.74031

A-21311 was used in Immunohistochemistry to conclude that basal synaptic strength, short-term plasticity, and homeostasis are determined input-specifically, generating a functional diversity that sculpts excitatory transmission and behavioral function.

Tag / 1:1000

Neuron (Mar 2017; 93: 1388)
"Input-Specific Plasticity and Homeostasis at the Drosophila Larval Neuromuscular Junction."
PubMed Article URL:http://dx.doi.org/10.1016/j.neuron.2017.02.028

A-21311 was used in Immunohistochemistry to demonstrate that zebrafish Pk1 is required during cranial neural crest EMT and migration.

Tag / Not Cited

Developmental biology (Apr 2019; 448: 16)
"Prickle1 is required for EMT and migration of zebrafish cranial neural crest."
Author(s):Ahsan K,Singh N,Rocha M,Huang C,Prince VE
PubMed Article URL:http://dx.doi.org/10.1016/j.ydbio.2019.01.018

A-21311 was used in Immunohistochemistry to demonstrate that these neurons preferentially receive information thought to convey the context of an experience.

Tag / 1:300

The Journal of neuroscience : the official journal of the Society for Neuroscience (Jun 2018; 38: 5843)
"Preferential Targeting of Lateral Entorhinal Inputs onto Newly Integrated Granule Cells."
Author(s):Woods NI,Vaaga CE,Chatzi C,Adelson JD,Collie MF,Perederiy JV,Tovar KR,Westbrook GL
PubMed Article URL:http://dx.doi.org/10.1523/JNEUROSCI.1737-17.2018

A-21311 was used in Immunohistochemistry to report a novel circuit mechanism by which PT activity amplifies excitatory inputs to the striatum, with potential implications for behavior, plasticity, and learning.

Tag / 1:1000

Science advances (Feb 2022; 8; )
"Pyramidal tract neurons drive amplification of excitatory inputs to striatum through cholinergic interneurons."
Author(s):Morgenstern NA,Isladro AF,Israely I,Costa RM
PubMed Article URL:http://dx.doi.org/10.1126/sciadv.abh4315

A-21311 was used in Immunohistochemistry to propose a novel role for the adrenergic nervous system in regulating circulating lymphocyte responses to viral infection.

Tag / 1:100

Current biology : CB (Feb 2017; 27: 345)
"The Function and Organization of the Motor System Controlling Flight Maneuvers in Flies."
Author(s):Lindsay T,Sustar A,Dickinson M
PubMed Article URL:http://dx.doi.org/10.1016/j.cub.2016.12.018


Products are warranted to operate or perform substantially in conformity with published Product specifications in effect at the time of sale, as set forth in the Production documentation, specifications and/or accompanying package inserts ("Documentation"). No claim of suitability for use in applications regulated by FDA is made. The warranty provided herein is valid only when used by properly trained individuals. Unless otherwise stated in the Documentation, this warranty is limited to one year from date of shipment when the Product is subjected to normal, proper and intended usage. This warranty does not extend to anyone other than the Buyer. Any model or sample furnished to Buyer is merely illustrative of the general type and quality of goods and does not represent that any Product will conform to such model or sample.

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A-21311 was used in Immunohistochemistry-immunofluorescence to demonstrate how the upregulation of miR-10a in aged human mesenchymal stem cells reduces age-related characteristics through the suppression of KLF4.

Tag / 1:400

Stem cell research & therapy (May 2018; 9; )

"miR-10a rejuvenates aged human mesenchymal stem cells and improves heart function after myocardial infarction through KLF4."

PubMed Article URL: http://dx.doi.org/10.1186/s13287-018-0895-0

A-21311 was used in Immunohistochemistry-immunofluorescence to identify distinct populations of isotype-switched memory B lymphocytes of murine spleen and bone marrow.

Tag / 1:100

Nature communications (May 2020; 11; )

"Discrete populations of isotype-switched memory B lymphocytes are maintained in murine spleen and bone marrow."

PubMed Article URL: http://dx.doi.org/10.1038/s41467-020-16464-6

A-21311 was used in immunohistochemistry to develop Langerin-DTR mice to study Langerhans cells

Tag / Not Cited

The Journal of cell biology (May 2005; 169: 569)

"Inducible ablation of mouse Langerhans cells diminishes but fails to abrogate contact hypersensitivity."

Author(s): Bennett CL, van Rijn E, Jung S, Inaba K, Steinman RM, Kapsenberg ML, Clausen BE
PubMed Article URL: http://dx.doi.org/10.1083/jcb.200501071

A-21311 was used in Immunohistochemistry-immunofluorescence to investigate the role of insulin signalling in Drosophila glial cells.

Tag / 1:250

BMC biology (Sep 2020; 18; )

"Independent glial subtype delay development and extend healthy lifespan upon reduced insulin-PI3K signalling."

Author(s): Woodling NS, Rajasingam A, Minkley LJ, Rizzo A, Partridge L
PubMed Article URL: http://dx.doi.org/10.1186/s12915-020-00854-9

A-21311 was used in Immunohistochemistry to show that the ELAV/Hu family RNA-binding protein Found in neurons (Fne) is required for space-filling dendrite growth to generate highly branched arbors of Drosophila larval class IV dendritic arborization neurons.

Tag / 1:500

PLoS genetics (Dec 2020; 16; )

"The ELAV/Hu protein Found in neurons regulates cytoskeletal and ECM adhesion inputs for space-filling dendrite growth."

Author(s): Alizzi RA, Xu D, Tenenbaum CM, Wang W, Gavie ER
PubMed Article URL: http://dx.doi.org/10.1371/journal.pgen.1009235

A-21311 was used in Immunohistochemistry-immunofluorescence to describe a tissue checkpoint regulated by the plasticity and adaptability of commensal-specific T cells, which allows flexibility in local immunity and tissue adaptation to injury.

Tag / Not Cited

Science (New York, N.Y.) (Jan 2019; 363; )

"Commensal-specific T cell plasticity promotes rapid tissue adaptation to injury."

PubMed Article URL: http://dx.doi.org/10.1126/science.aat6280

A-21311 was used in Immunohistochemistry-immunofluorescence to uncover a benign peripheral nerve sheath tumor (schwannoma type) in the perianal region of a 4-year-old Dales pony.

Tag / 1:400

Journal of veterinary diagnostic investigation: official publication of the American Association of Veterinary Laboratory Diagnosticians, Inc (Jan 2008; 20; 93)

"Benign peripheral nerve sheath tumor of the perianal region in a young pony."

Author(s): Sturgeon BP, Milne EM, Smith KC
PubMed Article URL: http://dx.doi.org/10.1177/104063870802000120


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A-21311 was used in Immunohistochemistry to characterize the whole-brain input connectome to cholinergic neurons across distinct functional domains (i.e. PPN vs LDT) using conditional transsynaptic retrograde labeling in ChAT::Cre male and female rats.

Tag / 1:1000

Scientific reports (Apr 2021; 11: )

"Whole-brain mapping of monosynaptic inputs to midbrain cholinergic neurons."

Author(s): Huerta-Ocampo I, Dautan D, Gut NK, Khan B, Mena-Segovia J
PubMed Article URL: http://dx.doi.org/10.1038/s41598-021-88374-6

A-21311 was used in Immunohistochemistry to examine expression of the mutant cotransporter in epithelial cells.

Tag / 1:200

American journal of physiology. Cell physiology (Aug 2018; 315: C258)

"Mistargeting of a truncated Na-K-2Cl cotransporter in epithelial cells."

Author(s): Koumangoye R, Omer S, Delpierre E
PubMed Article URL: http://dx.doi.org/10.1152/ajpcell.00130.2018

A-21311 was used in Immunohistochemistry-immunofluorescence to study how regulated protein secretion can synergise with tissue movement to build a polarised basement membrane architecture that controls tissue shape.

Tag / 1:1200

Developmental cell (Jul 2016; 38: 47)

"Rab10-Mediated Secretion Synergizes with Tissue Movement to Build a Polarized Basement Membrane Architecture for Organ Morphogenesis."

Author(s): Isabella Aj, Horne-Badovinac S
PubMed Article URL: http://dx.doi.org/10.1016/j.devcel.2016.06.009

A-21311 was used in Immunohistochemistry to identify extrinsic regulators of B-ALL survival supporting new immune-based therapeutic approaches for high-risk B-ALL treatment.

Tag / 1:500

Cancer cell (Jun 2020; 37: 867)

"Extensive Remodeling of the Immune Microenvironment in B Cell Acute Lymphoblastic Leukemia."

PubMed Article URL: http://dx.doi.org/10.1016/j.carenc.2020.04.015

A-21311 was used in Immunohistochemistry-wholemount to investigated in detail whether ganglion cells are altered at late stages of degeneration, well after the total loss of photoreceptors.

Tag / 1:500

The Journal of comparative neurology (Apr 2014; 522: 1155)

"The effect of photoreceptor degeneration on ganglion cell morphology."

Author(s): O’Brien EE, Greferath U, Fletcher EL
PubMed Article URL: http://dx.doi.org/10.1002/cne.23487

A-21311 was used in Immunohistochemistry to establish DMS dopamine signaling as a key controller of the development of compulsive reward seeking.

Tag / 1:500

Current biology : CB (Mar 2022; 32: 1175)

"Dopamine signaling in the dorsomedial striatum promotes compulsive behavior."

Author(s): Seiler JL, Cosme CV, Sherathiya VN, Schaid MD, Bianco JM, Bridgemohan AS, Lerner TN
PubMed Article URL: http://dx.doi.org/10.1016/j.cub.2022.01.055

A-21311 was used in Immunohistochemistry to develop an advanced CLARITY protocol for rapid and high-resolution imaging of intact tissues.

Tag / 1:500

Nature protocols (Jul 2014; 9: 1682)

"Advanced CLARITY for rapid and high-resolution imaging of intact tissues."

Author(s): Tomer R, Ye L, Hsueh B, Deisseroth K
PubMed Article URL: http://dx.doi.org/10.1038/nprot.2014.123

A-21311 was used in Immunohistochemistry to study acceleration of functional integration of adult-generated granule cells due to seizures.

Tag / 1:500

The Journal of neuroscience : the official journal of the Society for Neuroscience (Apr 2006; 26: 4095)

"Seizures accelerate functional integration of adult-generated granule cells."

Author(s): Overstreet-Wadiche LS, Bromberg DA, Bensen AL, Westbrook GL
PubMed Article URL: http://dx.doi.org/10.1523/JNEUROSCI.5508-05.2006
A-21311 was used in Immunohistochemistry-immunofluorescence to provide novel insights in APP physiological functions which are important for the understanding of the effects of drugs validated in Alzheimer’s disease treatment that affect the function of APP.

Tag / 1:200

Glia (May 2019; 67: 985) "In vivo Ca<sup>2+</sup> imaging of astrocytic microdomains reveals a critical role of the amyloid precursor protein for mitochondria."

A-21311 was used in Immunohistochemistry-immunofluorescence to identify spatial memory engrams in the mouse retrosplenial cortex which become progressively more stable with learning and are maintained over several weeks.

Tag / Not Cited

Current biology : CB (Jun 2018; 28: 1975) "Spatial Memory Engram in the Mouse Retrosplenial Cortex."
Author(s): Milczarek MM, Vann SD, Sengpiel F PubMed Article URL: http://dx.doi.org/10.1016/j.cub.2018.05.002

A-21311 was used in Immunohistochemistry to show that LC-NA activity displays distinct spatiotemporal dynamics to enable two functions during learned behaviour: facilitating task execution and encoding reinforcement to improve performance accuracy.

Tag / 1:500

Nature (Jun 2022; 606: 732) "Spatiotemporal dynamics of noradrenaline during learned behaviour."
Author(s): Breton-Provencher V, Drummond GT, Feng J, Li J, Y, Sur M PubMed Article URL: http://dx.doi.org/10.1038/s41586-022-04782-2

A-21311 was used in Immunohistochemistry to reveal a role for ephrin bidirectional signaling upstream of mutant 2-chimaerin in DRS, which may contribute to the selective vulnerability of abducens motor neurons in this disorder. Reveal a role for ephrin bidirectional signaling upstream of mutant 2-chimaerin in DRS, which may contribute to the selective vulnerability of abducens motor neurons in this disorder.

Tag / 1:1000

The Journal of clinical investigation (May 2017; 127: 1664) "Mutant 2-chimaerin signals via bidirectional ephrin pathways in Duane retraction syndrome."
Author(s): Nugent AA, Park JG, Wei Y, Tenney AP, Gilette NM, DeLisle MM, Chan WM, Cheng L, Engel EC PubMed Article URL: http://dx.doi.org/10.1172/JCI88502

A-21311 was used in Immunohistochemistry-immunofluorescence to determine the endogenous gene expression and subcellular localization of the sole NaV channel in both male and female Drosophila, para. Despite being the only NaV channel in the fly, we show that only 23% of neurons in the embryonic and larval CNS express para, while in the adult CNS para is broadly expressed.

Tag / 1:200

Author(s): Ravenscroft TA, Janssens J, Lee PT, Tepe B, Marcogiuse PC, Makhzami S, Holmes TC, Aerts S, Bellen HJ PubMed Article URL: http://dx.doi.org/10.1523/JNEUROSCI.0142-20.2020

A-21311 was used in Immunohistochemistry to investigate the interactions between these different factors in aortic aneurysm development and identify a key role for smooth muscle cell (SMC) reprogramming into a mesenchymal stem cell (MSC)-like state.

Tag / 1:1000

Cell stem cell (Apr 2020; 26: 542) "Smooth Muscle Cell Reprogramming in Aortic Aneurysms."

A-21311 was used in Immunohistochemistry to underpin the ability of CENP-A chromatin to establish and sustain mitotic centromere function in Drosophila.

Tag / Not Cited

Developmental cell (Feb 2020; 52: 379) "Targeted De Novo Centromere Formation in Drosophila Reveals Plasticity and Maintenance Potential of CENP-A Chromatin."
Author(s): Palladino J, Chavan A, Sposato A, Mason TD, Mellone BG PubMed Article URL: http://dx.doi.org/10.1016/j.develcell.2020.01.005
A-21311 was used in Immunohistochemistry to not support the hypothesis that Wnt ligands contribute to PCP signaling in the Drosophila wing or notum.

A-21311 was used in Immunohistochemistry-immunofluorescence to show that the lateral amygdala receives long-range GABAergic projection from the auditory cortex and these form direct monosynaptic inhibitory connections onto lateral amygdala principal neurons.

A-21311 was used in Immunohistochemistry-immunofluorescence to study the regulatory process for the dendritic patterning of retinal ganglion cells.

A-21311 was used in Immunohistochemistry to demonstrate that Ypel3 is a novel gene required for perineurcell development and glial myelination.

A-21311 was used in Immunohistochemistry-immunofluorescence to study the regulation of endogenous Ca2+ channels during homeostatic plasticity.

A-21311 was used in Immunohistochemistry to determine the role of Tetratricopeptide Repeat Domain 21B (Ttc21b) in cerebellar development.

A-21311 was used in Immunohistochemistry to discover that antigen valency has multifaceted effects on B cell responses and can dictate affinity thresholds and competitive landscapes for B cells in vivo.

A-21311 was used in Immunohistochemistry-immunofluorescence to study the regulation of endogenous Ca2+ channels during homeostatic plasticity.

PLOS Genetics (Jun 2020; 16: )

"ypelike 3 (ypel3) is a novel gene required for myelinating and perineurial glia development."


Pubmed Article URL: http://dx.doi.org/10.1371/journal.pgen.1008841

The Journal of comparative neurology (Dec 2017; 522: 3403)

"A general principle governs vision-dependent dendritic patterning of retinal ganglion cells."

Author(s): Xu HP, Sun JH, Tian N

Pubmed Article URL: http://dx.doi.org/10.1002/cne.23609


"Endogenous Tagging Reveals Differential Regulation of Ca-supa>2+/Ca-supa>2+ Channels at Single Active Zones during Presynaptic Homeostatic Potentiation and Depression."

Author(s): Gratz SJ, Goel P, Buckner JJ, Hernandez RX, Khateeb K, Macleod GT, Dickman D, O'Connor-Giles KM

Pubmed Article URL: http://dx.doi.org/10.1523/JNEUROSCI.3068-18.2019

Journal of Developmental Biology (Dec 2017; 5: )

"Ttc21b Is Required in Bergmann Glia for Proper Granule Cell Radial Migration."

Author(s): Driver AM, Shumrick C, Stottmann RW

Pubmed Article URL: http://dx.doi.org/10.1523/JNEUROSCI.3068-18.2019


"Multifaceted Effects of Antigen Valency on B Cell Response Composition and Differentiation In Vivo."


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A-21311 was used in Immunohistochemistry to show that neurons from the same lineage project to different columns under control of Down syndrome cell adhesion molecule (Dscam) in the fly brain.

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Nature communications (Aug 2020; 11:)
"Dscam1 establishes the columnar units through lineage-dependent repulsion between sister neurons in the fly brain."
Author(s): Liu C, Trush O, Han X, Wang M, Takayama R, Yasugi T, Hayashi T, Sato M
PubMed Article URL:http://dx.doi.org/10.1038/s41467-020-17931-w

Tag / Not Cited

iScience (Aug 2022; 25:)
"Regulation of <i>Drosophila</i>-ovoiduct muscle contractility by octopamine."
Author(s): Deshpande SA, Rohrbach EW, Asuncio JD, Harrigan J, Eamani A, Schlimmang EH, Suto DJ, Lee PT, Schweizer FE, Bellen HJ, Krantz DE
PubMed Article URL:http://dx.doi.org/10.1016/j.isci.2022.104697

A-21311 was used in Immunohistochemistry to investigate if aminergic pathways in the oviposition circuit may be comparable to some of the mechanisms that regulate visceral muscle contractility in mammals.

Tag / 1:1000

Neuron (Nov 2017; 96: 883)
"Development and Refinement of Functional Properties of Adult-Born Neurons."
Author(s): Wallace JL, Wiensnich M, Murthy VN
PubMed Article URL:http://dx.doi.org/10.1016/j.neuron.2017.09.039

Tag / 1:400

PLoS pathogens (Mar 2017; 13:)
"A quantitative brain map of experimental cerebral malaria pathology."
PubMed Article URL:http://dx.doi.org/10.1371/journal.ppat.1006267

A-21311 was used in Immunohistochemistry-immunofluorescence to show for the first time that mature parasitised red blood cells accumulate within the cerebral capillaries during experimental cerebral malaria.

Tag / 1:250

The Journal of experimental medicine (Feb 2019; 216: 294)
"Gene therapy targeting SARM1 blocks pathological axon degeneration in mice."
Author(s): Geisler S, Huang SX, Strickland A, Doan RA, Summers DW, Mao X, Park J, DiAntonio A, Milbrandt J
PubMed Article URL:http://dx.doi.org/10.1084/jem.20181040

A-21311 was used in Immunohistochemistry to develop a novel AAV-mediated gene therapy capable of blocking axonal degeneration through the inhibition of SARM1.

Tag / 1:500

Neurobiology of disease (Feb 2018; 110: 47)
"Optogenetic activation of 5-HT neurons in the dorsal raphe suppresses seizure-induced respiratory arrest and produces anticonvulsant effect in the DBA/1 mouse SUDEP model."
Author(s): Zhang H, Zhao H, Zeng C, Van Dort C, Faingold CL, Taylor NE, Solt K, Feng HJ
PubMed Article URL:http://dx.doi.org/10.1016/j.nbd.2017.11.003

A-21311 was used in Immunohistochemistry to suggest that the proper organization of the placental labyrinth depends on coordinated inter-endothelial repulsion, which prevents uncontrolled layering of the endothelium.

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Development (Cambridge, England) (Jul 2017; 144: 2392)
"Placental labyrinth formation in mice requires endothelial FLRT2/UNCSB signaling."
PubMed Article URL:http://dx.doi.org/10.1242/dev.149757

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A-21311 was used in Immunohistochemistry to interrogate a quantitative trait locus on Chr 4 associated with the population sizes of two types of bipolar cell in the mouse retina.

Tag / 1:1000

Frontiers in neuroscience (Sep 2020; 12: )

"cis-Xkr8<sup>+</sup> Modulates Bipolar Cell Number in the Mouse Retina."

Author(s):Kautzman AG,Keeling PW,Ackley CR,Leong S,Whitney IE,Reese BE

PubMed Article URL:http://dx.doi.org/10.3389/fnins.2018.00876

A-21311 was used in Immunohistochemistry to suggest that DCLK regulates the fate of neural progenitors during cortical neurogenesis

Tag / 1:1000

Neuron (Jan 2006; 49: 25)

"Doublecortin-like kinase controls neurogenesis by regulating mitotic spindles and M phase progression."


PubMed Article URL:http://dx.doi.org/10.1016/j.neuron.2005.10.039

A-21311 was used in Immunohistochemistry to reveal that Exoc3l2 is essential for cardiovascular and brain development in mice.

Tag / 1:200

Life (Basel, Switzerland) (Oct 2022; 12: )

"Essential Roles of <i>cis-Exocyst Complex Component 3-like 2</i> on Cardiovascular Development in Mice."


PubMed Article URL:http://dx.doi.org/10.3390/life12111730

A-21311 was used in Immunohistochemistry to determine the specificity of GCaMP3 expression in the Thy1-GCaMP3 transgenic mouse retina.

Tag / 1:400

Investigative ophthalmology & visual science (Jan 2019; 60: 183)

"Retinal Characterization of the Thy1-GCaMP3 Transgenic Mouse Line After Optic Nerve Transection."

Author(s):Blandford SN,Hooper ML,Yabana T,Chauhan BC,Baldridge WH,Farrell SRM

PubMed Article URL:http://dx.doi.org/10.1167/iovs.18-25861

A-21311 was used in Immunohistochemistry-immunofluorescence to investigate how Skeletal Muscle Stem Cell function changes with age by exploring the AMPK/p27Kip1 pathway (a mix of flow cytometry, immunofluorescence and western blot were used in this study).

Tag / Not Cited

Stem cell reports (Aug 2018; 11: 425)

"The AMPK/p27<sup>Kip1</sup> Axis Regulates Autophagy/Apoptosis Decisions in Aged Skeletal Muscle Stem Cells."

Author(s):White JP,Billini AN,Campbell ME,Russell AJ,Huffman KM,Kraus WE

PubMed Article URL:http://dx.doi.org/10.1016/j.stemcr.2018.06.014

A-21311 was used in Immunohistochemistry-immunofluorescence to conclude that the PrrxeGFP mouse is a powerful tool to visualize and isolate peristeal cells and to quantify their properties in the embryo and adult.

Tag / Not Cited

The Journal of small animal practice (Sep 2000; 41: 383)

"What is your diagnosis? Thoracic trauma."

Author(s):Dorey S,Maltra AS,Lamb CR


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Tag / 1:1000

Nature communications (Jul 2020; 11: )

"Dissemination of Ras-coupled-V12<sup>-</sup>-transformed cells requires the mechanosensitive channel Piezo."

Author(s):Lee J,Cabrera AJH,Nguyen CMT,Kwon YV

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A-21311 was used in Immunohistochemistry-immunofluorescence to contribute to the understanding of mammalian KMT5A/PR-SET7/SETD8 during brain development.

Tag / 1:500

EMBO reports (Apr 2021; 22: )

"Histone lysine methyltransferase Pr-set7/SETD8 promotes neural stem cell reactivation."

Author(s):Huang J,Gujar MR,Deng Q,Y Chia S,Li S,Tan P,Sung WK,Wang H

PubMed Article URL:http://dx.doi.org/10.15252/embr.202050994

A-21311 was used in Immunohistochemistry to test if altering the tamoxifen dose would modify CreER expression and target subsets of supporting cells.

Journal of the Association for Research in Otolaryngology : JARO (Apr 2017; 18: 227)
"Quantitative Analysis of Supporting Cell Subtype Labeling Among CreER Lines in the Neonatal Mouse Cochlea."
Author(s): McGovern MM, Branchek J, Grant AC, Graves KA, Cox BC
PubMed Article URL:http://dx.doi.org/10.1007/s10162-016-0598-0

A-21311 was used in Immunohistochemistry to demonstrate the involvement of Ggct (gamma-glutamyl cyclotransferase) gene expression in modulating the number of rod bipolar cells in the mouse retina.

Frontiers in neuroscience (Oct 2020; 12: )
"Genetic Control of Rod Bipolar Cell Number in the Mouse Retina."
Author(s): Kautzman AG, Keeley PW, Borhani S, Ackley CR, Reece BE
PubMed Article URL:http://dx.doi.org/10.3389/fnn.2018.00285

A-21311 was used in Immunohistochemistry to show that targeting this type of adhesion complex could be a safe and effective therapeutic option to suppress cancer progression.

The Journal of clinical investigation (Mar 2022; 132: )
"Tumor-specific interendothelial adhesion mediated by FLRT2 facilitates cancer aggressiveness."
PubMed Article URL:http://dx.doi.org/10.1172/JCI153626

A-21311 was used in Immunohistochemistry-immunofluorescence to investigate the effects of smooth muscle cell proliferation in the aortic media by conditional disruption of Tsc1, which hyperactivates mTOR complex 1.

The Journal of clinical investigation (Mar 2020; 130: 1233)
"Chronic mTOR activation induces a degradative smooth muscle cell phenotype."
PubMed Article URL:http://dx.doi.org/10.1172/JCI113048

A-21311 was used in immunohistochemistry to investigate cyclic nucleotide-gated channel subunits in rat retinal ganglion cells.

The Journal of comparative neurology (Sep 2011; 519: 2546)
"Colocalization of hyperpolarization-activated, cyclic nucleotide-gated channel subunits in rat retinal ganglion cells."
Author(s): Stradleigh TW, Ogata G, Partida GJ, Oi H, Greenberg KP, Krempeley KS, Ishida AT
PubMed Article URL:http://dx.doi.org/10.1002/cne.22638

A-21311 was used in Immunohistochemistry to support a neural mechanism whereby peripheral immune/inflammatory stress impairs reproductive neuroendocrine function via inhibition of kisspeptin cell activation and reduced pulsatile luteinizing hormone secretion.

The Journal of endocrinology (Aug 2020; 246: 149)
"Peripheral interleukin-1 inhibits arcuate kiss1 cells and LH pulses in female mice."
Author(s): Makowski KN, Kreisman MJ, McCoosh RB, Raad AA, Breen KM
PubMed Article URL:http://dx.doi.org/10.1530/JOE-20-0165

A-21311 was used in Immunohistochemistry to identify a novel and unexpected population of progenitors for coronary mural cells with relevance to heart function.

Nature communications (Aug 2016; 7:)
"Endothelial cells are progenitors of cardiac pericytes and vascular smooth muscle cells."
PubMed Article URL:http://dx.doi.org/10.1038/ncomms12422

A-21311 was used in immunohistochemistry to elucidate the function of Foxp3 in T regulatory cell lineage commitment.

Nature immunology (Apr 2007; 8: 359)
"Regulatory T cell development in the absence of functional Foxp3."
Author(s): Lin W, Haribhai D, Relland LM, Truong N, Carlson MR, Williams CB, Chatilla TA
PubMed Article URL:http://dx.doi.org/10.1038/nri1445
A-21311 was used in Immunohistochemistry to develop a novel method for efficient gene delivery across the central nervous system in neonatal mice and rats starting as early as P1 and persisting into adulthood.


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Tag / 1:500

eLife (May 2020; 9; )
"Transverse sinus injections drive robust whole-brain expression of transgenes."
Author(s):Hamodi AS,Martinez Sabino A,Fitzgerald ND,Moscou D,Craig MC
PubMed Article URL:http://dx.doi.org/10.7554/eLife.53639

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Immunity (May 2019; 50: 1188)
"The Chemokine Receptor Ebi2 Drives Intrathoracic Naive CD4(+)/CD45(+)/CD45(-) T Cell Peripheralization to Promote Effective Adaptive Immunity."
Author(s):Gavras AP,Gola A,Huang Y,Milanese-Almeida P,Torabi-Parizi P,Urbani JC,Shapiro VS,Gerner MY,Germain RN
PubMed Article URL:http://dx.doi.org/10.1016/j.immuni.2019.04.001

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Frontiers in neuroanatomy (Feb 2016; 10; )
"Extrinsic Sources of Cholinergic Innervation of the Striatal Complex: A Whole-Brain Mapping Analysis."
Author(s):Dautan D,Haciolu Bay H,Bolam JP,Gerdjikov TV,Mena-Segovia J
PubMed Article URL:http://dx.doi.org/10.3389/fnana.2016.00001

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"Glycine receptor-mediated synaptic transmission regulates the maturation of ganglion cell synaptic connectivity."
Author(s):Xu H,Tian N
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Journal of comparative physiology, A, Neuroethology, sensory, neural, and behavioral physiology (May 2012; 198: 389)
"Columnar cells necessary for motion responses of wide-field visual interneurons in Drosophila."
Author(s):Schell B,Raghuv S,Neum A,Borst A
PubMed Article URL:http://dx.doi.org/10.1007/s00359-012-0716-3

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The American journal of pathology (Oct 2018; 188: 2155)
"Lineage-Specific Wnt Reporter Elucidates Mesenchymal Tumor Signaling during Bone Repair."
Author(s):Chang L,Zhang L,Xu J,Meyers CA,Li Z,Yan N,Zou E,James AW
PubMed Article URL:http://dx.doi.org/10.1016/j.ajpath.2018.07.003

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Nature communications (Apr 2016; 7; )
"The cell adhesion molecule Fasciclin2 regulates brush border length and organizes in drosophila renal tubules."
Author(s):Goldberg KA,Rainey SM,Veland IR,Neuert H,Dornan A,klambt C,Davies SA,Dow JA
PubMed Article URL:http://dx.doi.org/10.1038/ncomms11266
A-21311 was used in Immunohistochemistry-immunofluorescence to suggest that 14-3-3 is a potential negative prognostic factor and a possible therapeutic target.

Tag / 1:400


Tag / 1:1000

Psychopharmacology (Aug 2017; 234: 2399) "Thalamic inputs to dorsomedial striatum are involved in inhibitory control: evidence from the five-choice serial reaction time task in rats." Author(s): Saund J, Dautan D, Rostron C, Urcelay GP, Gerdjikov TV PubMed Article URL: http://dx.doi.org/10.1002/s00213-017-4627-4

Tag / 1:500


Tag / 1:200


Tag / 2:200

Scientific reports (Sep 2020; 10: ) "Myh11+ microvascular mural cells and derived mesenchymal stem cells promote retinal fibrosis." Author(s): Ray HC, Corliss BA, Bruce AC, Keeping S, Dey P, Mansour J, Seaman SA, Smolko CM, Mathews C, Dey BK, Owens GK, Peirce SM, Yates PA PubMed Article URL: http://dx.doi.org/10.1038/s41598-020-72875-x

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Tag / 2:200


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A-21311 was used in Immunohistochemistry-immunofluorescence to overcome the loss of protein function observed after fusion to ciliary targeting sequences.

**Tag / 1:1000**

*Neuron* (Jun 2020; 9: )

"*Nanobody-directed targeting of optogenetic tools to study signaling in the primary cilium.*"


PubMed Article URL: http://dx.doi.org/10.7554/eLife.57907

A-21311 was used in Immunohistochemistry to demonstrate regional variation in Wnt pathway dysregulation early after seizure induction.

**Tag / 1:500**

*PloS One* (Mar 2020; 14: )

"*Neuronal network remodeling and Wnt pathway dysregulation in the intra-hippocampal kainate mouse model of temporal lobe epilepsy.*"

Author(s): Gupta K, Schnell E

PubMed Article URL: http://dx.doi.org/10.1371/journal.pone.0215789

A-21311 was used in Immunohistochemistry-immunofluorescence to show that cardiomyocytes in the foetal compact layer contribute to forming a hybrid myocardial zone that is composed of cells derived from both trabecular and compact layers.

**Tag / 1:200**

*Nature communications* (Jul 2017; 8: )

"*Identification of a hybrid myocardial zone in the mammalian heart after birth.*"


PubMed Article URL: http://dx.doi.org/10.1038/s41467-017-00118-1

A-21311 was used in immunohistochemistry to identify glutamatergic neurons of the fly visual system.

**Tag / 1:200**

*PloS One* (May 2011; 6: )

"*Candidate glutamatergic neurons in the visual system of Drosophila.*"

Author(s): Raghu SV, Borst A

PubMed Article URL: http://dx.doi.org/10.1371/journal.pone.0019472

A-21311 was used in Immunohistochemistry to demonstrate that gene-expression analysis in isolation is insufficient to identify neuron types and have important implications for understanding the functional role of cortical feedback circuits.

**Tag / Not Cited**

*Neuron* (Jul 2020; 107: 274)

"*Extraction of Distinct Neuronal Cell Types from within a Genetically Continuous Population.*"


PubMed Article URL: http://dx.doi.org/10.1016/j.neuron.2020.04.018

A-21311 was used in Immunohistochemistry to show that the presence of eosinophils is critical for innate clearance of B. malayi Mf infection, whereas rapid clearance of secondary infections is independent of both eotaxin-1 and IL-5.

**Tag / 1:500**

*European journal of immunology* (Jan 2005; 35: 189)

"*Eotaxin-1-regulated eosinophils have a critical role in innate immunity against experimental Brugia malayi infection.*"

Author(s): Simons JE, Rothenberg ME, Lawrence RA

PubMed Article URL: http://dx.doi.org/10.1002/eji.200425541

A-21311 was used in immunohistochemistry to identify neurons involved in optomotor behavior in fruit flies.

**Tag / Not Cited**

*Journal of neurophysiology* (Mar 2010; 103: 1646)

"*Processing of horizontal optic flow in three visual interneurons of the Drosophila brain.*"

Author(s): Schnell B, Joesch M, Forster N, Raghuv S, Otusna H, Ito K, Borst A, Reiff DF

PubMed Article URL: http://dx.doi.org/10.1152/jn.00950.2009

A-21311 was used in Immunohistochemistry-immunofluorescence to demonstrate regional variation in Wnt pathway dysregulation early after seizure induction.

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"*The Spatiotemporal Organization of the Striatum Encodes Action Space.*"

Author(s): Klaus A, Martins GJ, Paixao VB, Zhou P, Paninski L, Costa RM

PubMed Article URL: http://dx.doi.org/10.1016/j.neuron.2017.08.015

A-21311 was used in Immunohistochemistry-immunofluorescence to identify toluidine blue as a potent molecule against Alzheimer’s disease by inhibiting aggregation of Tau-mediated pathology.
A-21311 was used in immunohistochemistry to research the connection between oligodendrocyte death and immune-mediated CNS demyelination.

Nature neuroscience (Jan 2016; 19: 65)
"Oligodendrocyte death results in immune-mediated CNS demyelination."
Author(s): Traka M, Podojil JR, McCarthy DP, Miller SD, Popko B
PubMed Article URL: http://dx.doi.org/10.1038/nn.4193

A-21311 was used in immunohistochemistry to study amacrine and horizontal cells in the retinal vascular plexuses.

The Journal of clinical investigation (Jun 2015; 125: 2335)
"Neurovascular crosstalk between interneurons and capillaries is required for vision."
Author(s): Usui Y, Westenskow PD, Kurihara T, Aguilar E, Sakimoto S, Paris LP, Wittgrove C, Feitelberg D, Friedlander MS, Moreno SK, Dorrell MI, Friedlander M
PubMed Article URL: http://dx.doi.org/10.1172/JCI80297

A-21311 was used in Immunohistochemistry to determine the function of the extracellular region of CRB1.

Journal of cell science (Jul 2017; 130: 2147)
"Unique cell biological profiles of retinal disease-causing missense mutations in the polarity protein Crumbs."
Author(s): Pellikka M, Tepass U
PubMed Article URL: http://dx.doi.org/10.1242/jcs.197178

A-21311 was used in Immunohistochemistry to show that retinal ganglion cells are lost from the peripheral retina of mice within the first 3 months of diabetes and that the dendrites of surviving large ON-type cells undergo morphological changes.

Investigative ophthalmology & visual science (Jun 2008; 49: 2635)
"Dendrite remodeling and other abnormalities in the retinal ganglion cells of Ins2 Akita diabetic mice."
Author(s): Gastinger MJ, Kunselman AR, Conboy EE, Bronson SK, Barber AJ
PubMed Article URL: http://dx.doi.org/10.1167/iovs.07-0883

A-21311 was used in Immunohistochemistry to provide new insights into a dorsal CA2 to ventral CA1 circuit whose dynamic activity is necessary for social memory.

Nature communications (Oct 2018; 9: )
"A hippocampal circuit linking dorsal CA2 to ventral CA1 critical for social memory dynamics."
Author(s): Meira T, Leroy F, Buss EW, Olivia A, Park J, Siegelbaum SA
PubMed Article URL: http://dx.doi.org/10.1038/s41467-018-06501-w

A-21311 was used in Immunohistochemistry to define the cellular remodeling process resulting from ISC niche interruption by transient Notch pathway inhibition in adult mice.

Stem cell reports (Jul 2020; 15: 156)
"Rapid Crypt Cell Remodeling Regenerates the Intestinal Stem Cell Niche after Notch Inhibition."
PubMed Article URL: http://dx.doi.org/10.1016/j.stemcr.2020.05.010

A-21311 was used in immunohistochemistry to study the role of neurolphin2 and its regulation of post-crossing spinal commissural axons in a subtype-specific manner.

Neural development (Jul 2013; 8: )
"Neurolphin2 regulates the guidance of post-crossing spinal commissural axons in a subtype-specific manner."
Author(s): Tran TS, Carlin E, Lin R, Martinez E, Johnson JE, Kaprielian Z

A-21311 was used in Immunohistochemistry to demonstrate that plasticity of eye dominance and acuity are independent and restricted by the nogo-66 receptor (ngr1) in distinct neuronal populations.

Current biology : CB (Jun 2018; 28: 1914)
"Distinct Circuits for Recovery of Eye Dominance and Acuity in Murine Amblyopia."
Author(s): Stephany CE, Ma X, Dorton HM, Wu J, Solomon AM, Frantz MG, Qiu S, McGee AW
PubMed Article URL: http://dx.doi.org/10.1016/j.cub.2018.04.055

A-21311 was used in Immunohistochemistry to show midbrain cholinergic neurons innervate almost the entire thalamus whilst maintaining functional segregation.

eNeuro (Jun 2021; 7: )
"Distribution of Midbrain Cholinergic Axons in the Thalamus."
Author(s): Huerta-Ocampo I, Hacioglu-Bay H, Dautan D, Mena-Segovia J
PubMed Article URL: http://dx.doi.org/10.1523/ENEURO.0454-19.2019
Science immunology (Jun 2021; 6: )

"Abcg1 and Gtgs support lymphocyte guidance through export and catabolism of c-fos/geranylgeranyl-l-glutathione."


PubMed Article URL: http://dx.doi.org/10.1126/sciimmunol.abg1101


"Genetic Rescue Reverses Microglial Activation in Preclinical Models of Retinitis Pigmentosa."

Author(s): Zhang L, Cui X, Jauregui P, Park KS, Justus S, Tsai YT, Duong JK, Hsu CW, Wu WH, Xu CL, Lin CS, Tsang SH

PubMed Article URL: http://dx.doi.org/10.1016/j.ymthe.2018.06.014


"Dicer inactivation leads to progressive functional and structural degeneration of the mouse retina."

Author(s): Damiani D, Alexander JJ, O'Rourke JR, McManus M, Jadhav AP, Cepko CL, Hauswirth WW, Harde BR, Strettoi E

PubMed Article URL: http://dx.doi.org/10.1523/JNEUROSCI.0828-08.2008

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"Cystin genetic variants cause autosomal recessive polycystic kidney disease associated with altered Myc expression."


PubMed Article URL: http://dx.doi.org/10.1038/s44161-022-00046-4

Science immunology (Jun 2021; 6: )

"All-Optical Electrophysiology in hiPSC-Derived Neurons With Synthetic Voltage Sensors."

Author(s): Puppo F, Sadegh S, Trujillo CA, Thunemann M, Vandenberghe M, Shan X, Akkouh IA, Miller EW, Bloodgood BL, Silva GA, Dale AM, Einevoll GT, Djurovic S, Andressen OA, Muotri AR, Devor A

PubMed Article URL: http://dx.doi.org/10.3389/fncel.2021.671549
A-21311 was used in immunohistochemistry to show that cholinergic neurons in the brainstem provide a direct innervation of the striatal complex.

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"A major external source of cholinergic innervation of the striatum and nucleus accumbens originates in the brainstem."

Author(s):Dautan D,Huerta-Ocampo I,Witten IB,Deisseroth K,Bolam JP,Gerdjikov T,Mena-Segovia J

A-21311 was used in immunohistochemistry to study the role of hippocampus subventricular zone progenitors in the development of dentate gyrus, corpus callosum, fimbria, and cerebral cortex

Tag / 1:1000

The Journal of comparative neurology (Aug 2006; 497: 833)

"Postnatal cellular contributions of the hippocampus subventricular zone to the dentate gyrus, corpus callosum, fimbria, and cerebral cortex."

Author(s):Navarro-Quiroga I,Hernandez-Valdes M,Lin SL,Naegle JR
PubMed Article URL:http://dx.doi.org/10.1002/cne.21037

A-21311 was used in immunohistochemistry to utilize serial-section electron microscopy to visualize reconstruction of genetically identified neurons

Tag / Not Cited
eLife (Jul 2016; 5: )

"Reconstruction of genetically identified neurons imaged by serial-section electron microscopy."

PubMed Article URL:http://dx.doi.org/10.7554/eLife.15015

A-21311 was used in Immunohistochemistry to describe the detailed characterization of a new marker-free P. falciparum parasite line that expresses rapamycin-inducible Cre recombinase across the full life cycle.

Tag / 1:200

mBio (Sep 2019; 10: )


PubMed Article URL:http://dx.doi.org/10.1128/mBio.01170-19

A-21311 was used in Immunohistochemistry-immunofluorescence to show cholinergic neurons of the midbrain modulate cholinergic interneurons.

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Nature communications (Apr 2020; 11: )

"Cholinergic midbrain afferents modulate striatal circuits and shape encoding of action strategies."

Author(s):Dautan D,Huerta-Ocampo I,Gut NK,Valencia M,Kondabolu K,Kim Y,Gerdjikov TV,Mena-Segovia J
PubMed Article URL:http://dx.doi.org/10.1038/s41467-020-15514-3

A-21311 was used in Immunohistochemistry to identify computational motifs of the transformation, enabling mechanistic comparisons of multisensory integration and central processing for navigation in the brains of insects.

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eLife (Mar 2021; 10: )

"A visual pathway for skylight polarization processing in dDrosophila< /i>.

Author(s):Hardcastle BJ,Omoto JJ,Kandimalla P,Nguyen BM,Levin MD,Buckley KD,Frye MA
PubMed Article URL:http://dx.doi.org/10.7554/eLife.63225

A-21311 was used in Immunohistochemistry-immunofluorescence to identify the role of Fife in the organisation of and release of synaptic vesicles, and associated calcium channels. Electron tomographic and electrophysiological studies were used in Drosophila melanogaster.

Tag / 1:500

The Journal of cell biology (Jan 2017; 216: 231)

"Fife organizes synaptic vesicles and calcium channels for high-probability neurotransmitter release."

PubMed Article URL:http://dx.doi.org/10.1083/jcb.201601098

A-21311 was used in immunohistochemistry to elucidate acetylcholine receptor cluster formation and the requirement of Sorbs1 and -2 interacting with CrkL

Tag / Not Cited

Molecular and cellular biology (Jan 2016; 36: 262)

"Sorbs1 and -2 Interact with CrkL and Are Required for Acetylcholine Receptor Cluster Formation."

Author(s):Hallock PT,Chin S,Blaas S,Neubert TA,Glass DJ
PubMed Article URL:http://dx.doi.org/10.1128/MCB.00775-15


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Frontiers in neuroscience (May 2022; 13:)
"The Susceptibility of Retinal Ganglion Cells to Glutamatergic Excitotoxicity Is Type-Specific."
Author(s):Christensen I,Lu B,Yang N,Huang K,Wang P,Tian N
PubMed Article URL:http://dx.doi.org/10.3389/fnins.2019.00219

Nature communications (Oct 2019; 10:)
"A genome-wide assessment of the ancestral neural crest gene regulatory network."
Author(s):Hockman D,Chong-Morrison V,Green SA,Gavirovcukina D,Candido-Ferreira I,Ling ITC,Williams RM,Amemiya CT,Smith JJ,Bronner ME,Sauka-Spengler T
PubMed Article URL:http://dx.doi.org/10.1038/s41467-019-12687-4

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Cell reports (Jun 2021; 35:)
"Hepatocyte membrane potential regulates serum insulin and insulin sensitivity by altering hepatic GABA release."
PubMed Article URL:http://dx.doi.org/10.1016/j.cell.2021.109298

A-21311 was used in Immunohistochemistry to identify GABA as a neuro-hepatokine that is dysregulated in obesity and whose release can be manipulated to mute or exacerbate the gluco-regulatory dysfunction common to obesity.

Nature communications (Mar 2020; 9:)
"A Dual Role for Retinal Ganglion Cells in Optic Nerve Injury Is Type-Specific."
Author(s):Yang N,Young BK,Wang P,Tian N
PubMed Article URL:http://dx.doi.org/10.1038/s41467-019-12687-4

A-21311 was used in Immunohistochemistry to study rod-cone opponency as a neuronal circuit for visual discrimination.

Eukaryotic cell (Jan 2017; 14: 96)
"In vitro alterations do not reflect a requirement for host cell cycle progression during Plasmodium liver stage infection."
Author(s):Hanson KK,March S,Ng S,Bhatia SN,Mota MM
PubMed Article URL:http://dx.doi.org/10.1038/nature17158

A-21311 was used in Immunohistochemistry to characterise the susceptibility of retinal ganglion cells to NMDA-induced excitotoxicity.

Frontiers in neuroscience (May 2017; 6:)
"Synaptic organization of lobula plate tangential cells in Drosophila: Dalpha7 cholinergic receptors."
Author(s):Raghu SV,Joesch M,Sigrist SJ,Borst A,Reiff DF
PubMed Article URL:http://dx.doi.org/10.3389/fnins.2017.00296

A-21311 was used in Immunohistochemistry-immunofluorescence to provide insight into the core gene regulatory network (GRN) elements conserved to the base of the vertebrates and expose others that are unique to lampreys.

Nature communications (May 2016; 10:)
"A genome-wide assessment of the ancestral neural crest gene regulatory network."
Author(s):Hockman D,Chong-Morrison V,Green SA,Gavirovcukina D,Candido-Ferreira I,Ling ITC,Williams RM,Amemiya CT,Smith JJ,Bronner ME,Sauka-Spengler T
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A-21311 was used in Immunohistochemistry to examine the mechanism of parasite proliferation within plasmodium liver stage infection

Eukaryotic cell (Nov 2015; 12: 11)
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Author(s):Joesch M,Meister M
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A-21311 was used in Immunohistochemistry to examine the subcellular distribution of nicotinic acetylcholine receptors in lobula plate tangential cells

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Author(s):Yang N,Young BK,Wang P,Tian N
PubMed Article URL:http://dx.doi.org/10.3389/cells9030677

A-21311 was used in Immunohistochemistry to study rod-cone opponency as a neuronal circuit for colour vision

Nature (Apr 2016; 532: 236)
"A neuronal circuit for colour vision based on rod-cone opponency."
Author(s):Joesch M,Meister M
PubMed Article URL:http://dx.doi.org/10.1038/nature17158

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Author(s):Hanson KK,March S,Ng S,Bhatia SN,Mota MM
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A-21311 was used in Immunohistochemistry to study rod-cone opponency as a neuronal circuit for colour vision


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A-21311 was used in Immunohistochemistry to suggest that PVs mediate slow spillover signaling, and that spillover transmission mediates activity-dependent regulation of early events in adult neurogenesis.

Tag / 1:1000

eLife (Jun 2020; 9; )

"Parvalbumin interneurons provide spillover to newborn and mature dentate granule cells."

Author(s): Vaden RJ, Gonzalez JC, Tsai MC, Niver AJ, Fusilier AR, Griffith CM, Kramer RH, Wadiche JI, Overstreet-Wadiche L

PubMed Article URL: http://dx.doi.org/10.7554/eLife.54125

A-21311 was used in Immunohistochemistry-immunofluorescence to detect, in an oral high-dose dexamethasone suppression test, using 0.1 mg dexamethasone/kg bodyweight, the ucrs of seven alopecic pomeranians and five alopecic miniature poodles decreased to low levels.

Tag / 1:400

The Veterinary record (Mar 2007; 160: 393)

"Alopecia in pomeranians and miniature poodles in association with high urinary corticoid:creatinine ratios and resistance to glucocorticoid feedback."

Author(s): Cerundolo R, Lloyd DH, Vaessen MM, Mol JA, Kooistra HS, Rijnberk A

PubMed Article URL: http://dx.doi.org/10.1136/vr.160.12.393

A-21311 was used in Immunohistochemistry, Immunocytochemistry to report the use of conventional, commercially available fluorescent dyes for rapid and intense covariant labeling of proteins and carbohydrates in super-resolution (expansion) microscopy and cleared tissue microscopy.

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Science advances (May 2020; 6; )

"Feature-rich covariant stains for super-resolution and cleared tissue fluorescence microscopy."


PubMed Article URL: http://dx.doi.org/10.1126/sciadv.aba4542

A-21311 was used in immunohistochemistry to study connexin expression in arrhythmogenesis.

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Circulation research (May 2012; 110: 1445)

"Electrical coupling and propagation in engineered ventricular myocardium with heterogeneous expression of connexin43."

Author(s): Beauchamp P, Desplanetz T, McCain ML, Li W, Asimaki A, Rigoli G, Parker KK, Saffitz JE, Kleber AG

PubMed Article URL: http://dx.doi.org/10.1161/CIRCRESAHA.111.259705

A-21311 was used in Immunohistochemistry to demonstrate that lysosome activation is entrained to meiotic progression in developing sperm, as in oocytes, and lysosomal dysfunction may instigate male reproductive aging.

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"A meiotic switch in lysosome activity supports spermatocyte development in young flies but collapses with age."

Author(s): Butsch TJ, Dubuisson O, Johnson AE, Bohnet KA

PubMed Article URL: http://dx.doi.org/10.1016/j.isci.2022.104382

A-21311 was used in Immunohistochemistry to analyse the effects of environmental enrichment exposure on neural precursors distribution in mouse brain meninges.

Tag / 1:500

International journal of molecular sciences (Oct 2021; 22; )

"Environmental Enrichment Induces Meningeal Niche Remodeling through TrkB-Mediated Signaling."


PubMed Article URL: http://dx.doi.org/10.3390/ijms221910657

A-21311 was used in Immunohistochemistry-immunofluorescence to propose that enclosure of dendrites by epidermal cells is a developmental mechanism for coordinated innervation of shared receptive fields.

Tag / 1:350

Cell reports (Sep 2017; 20; 3043)

"Enclosure of Dendrites by Epidermal Cells Restrictions Branching and Permits Coordinated Development of Spatially Overlapping Sensory Neurons."

Author(s): Tenenbaum CM, Misra M, Alizzi RA, Gavis ER

PubMed Article URL: http://dx.doi.org/10.1016/j.celrep.2017.09.001


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Endocrinology (Feb 2008; 149: 506)  
"Ablation of leptin signaling disrupts the establishment, development, and maintenance of endometriosis-like lesions in a murine model."  
Author(s): Styter AK, Sullivan BT, Puder M, Arsenault D, Petrozza JC, Serikawa T, Chang S, Hasan T, Gonzalez RR, Rueda BR  
PubMed Article URL: http://dx.doi.org/10.1210/en.2007-1225

A-21311 was used in Immunohistochemistry to establish how ACh drives striatal dopamine release in regards to whether Chls alone and/or brainstem afferents to the striatum.

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eNeuro (Apr 2019; 5: )  
"Targeted Activation of Cholinergic Interneurons Accounts for the Modulation of Dopamine by Striatal Nicotinic Receptors."  
Author(s): Brimblecombe KR, Threlfell S, Dautan D, Kosillo P, Mena-Segovia J, Cragg SJ  
PubMed Article URL: http://dx.doi.org/10.1523/EJNEURO.0397-17.2018

A-21311 was used in Immunohistochemistry to investigate the functional roles of ventral projection neurons (vPNs) in the antennal lobe (AL) through the use of optogenetic and patch clamp techniques.

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Frontiers in neural circuits (Mar 2018; 11: )  
"A Population of Projection Neurons that Inhibits the Lateral Horn but Excites the Antennal Lobe through Chemical Synapses in <i>c. Drosophila</i>".  
Author(s): Shimizu K, Stopfer M  
PubMed Article URL: http://dx.doi.org/10.3389/fncir.2017.00030

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Developmental dynamics : an official publication of the American Association of Anatomists (Apr 2012; 241: 684)  
"In vivo Notch reactivation in differentiating cochlear hair cells induces Sox2 and Prox1 expression but does not disrupt hair cell maturation."  
Author(s): Liu Z, Owen T, Fang J, Srinivasan RS, Zuo J  
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Frontiers in cell and developmental biology (Sep 2020; 8: )  
"Tbx20 Induction Promotes Zebrafish Heart Regeneration by Inducing Cardiomyocyte Dedifferentiation and Endocardial Expansion."  
Author(s): Fang Y, Lai KS, She P, Sun J, Tao W, Zhong TP  
PubMed Article URL: http://dx.doi.org/10.3389/fcell.2020.00738

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<table>
<thead>
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Journal of clinical immunology (Nov 2022; 42: 1638)  
"A Novel Homozygous Stop Mutation in IL23R Causes Mendelian Susceptibility to Mycobacterial Disease."  
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"Featured Article: Nuclear export of opioid growth factor receptor is CRM1 dependent."
Author(s): Kren NP, Zagon IS, McLaughlin PJ
PubMed Article URL: http://dx.doi.org/10.1177/1535370215605585

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The Journal of biological chemistry (Oct 2005; 280: 35513)
"Effects of RNA interference of Trypanosoma brucei structure-specific endonuclease-I on kinetoplast DNA replication."
Author(s): Liu Y, Motyka SA, Englund PT
PubMed Article URL: http://dx.doi.org/10.1074/jbc.M507296200

A-21311 was used in Immunocytochemistry-immunofluorescence to show, in the absence of the dileucine motif at the COOH domain, NKCC1 targets are trafficked out of the endoplasmic reticulum and trans-Golgi network and accumulated in endosomes for degradation.

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"A dileucine motif in the COOH-terminal domain of NKCC1 targets the cotransporter to the plasma membrane."
Author(s): Koumanagoe R, Omer S, Delpire E
PubMed Article URL: http://dx.doi.org/10.1152/ajpcell.0023.2019

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Autophagy (Jul 2022; 18: 1583)
"A noncanonical autophagy is involved in the transfer of <i>Plasmodium</i>-microvesicles to astrocytes."
Author(s): Leleu I, Genete D, Desouleze SS, Saidi N, Brodin P, Lafont T, Tomavo S, Pied S
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Nature (Dec 2018; 564: 213)
"A circuit from hippocampal CA2 to lateral septum disinhibits social aggression."
Author(s): Leroy F, Park J, Asok A, Brann DH, Meira T, Boyle LM, Buss EW, Kandel ER, Siegelbaum SA
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"<i>Plasmodium</i>-parasitophorous vacuole membrane-resident protein UIS4 manipulates host cell actin to avoid parasite elimination."
Author(s): M'Bana V, Lahree A, Marques S, Slavic K, Mota MM
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Author(s): Fusté NP, Fernández-Hernández R, Cemeli T, Mirantes C, Pedraza N, Rafel M, Torres-Rosell J, Colomina N, Ferrezuelo F, Dolcet X, Gari E
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"Quantitative proteomics identifies proteins that resist translational repression and become dysregulated in ALS-FUS."
Author(s): Baron DM, Matheny T, Lin YC, Leszyk JD, Kenna K, Gall KV, Santos DP, Tischbein M, Funes S, Hayward LJ, Kiskinis E, Landers JE, Parker R, Shaffer SA, Bosco DA
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PloS one (Aug 2012; 7:)  
"Overactivation of Notch1 signaling induces ectopic hair cells in the mouse inner ear in an age-dependent manner."  
Author(s): Liu Z, Owen T, Fang J, Zuo J  
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Lab on a chip (Feb 2014; 14: 696)  
"Non-destructive handling of individual chromatin fibers isolated from single cells in a microfluidic device utilizing an optically driven microtool."  
Author(s): Oana H, Nishikawa K, Matsuhara H, Yamamoto A, Yamamoto TG, Haraguchi T, Hiraoka Y, Washizu M  
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**Tag / 1:500**

Stem cells international (Sep 2020; 2020:)  
"Immortalizing Mesenchymal Stromal Cells from Aged Donors While Keeping Their Essential Features."  
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A-21311 was used in Immunocytochemistry to investigate the effects of loss of Id genes on adult endothelial cell.

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Author(s): Gadomski S, Singh SK, Singh S, Sarkar T, Klarmann KD, Berenschot M, Seaman S, Jakubison B, Gudmundsson KO, Lockett S, Keller JR  
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"Baculoviral vector-mediated transient and stable transgene expression in human embryonic stem cells."  
Author(s): Zeng J, Du J, Zhao Y, Palanisamy N, Wang S  
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Author(s): Morgani SM, Brickman JM  
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Author(s): Gonzalez-Quevedo R, Shoffer M, Horng L, Oro AE  
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A-21311 was used in Immunocytochemistry-immunofluorescence to show, in response to laminar blood flow, cell polarity protein PAR-3 has an essential role as a gatekeeper of GSK3 activity.

A-21311 was used in Immunocytochemistry-Immunofluorescence to hypothesize that different SynGAP isoforms will mediate different sets of functions and that deciphering their spatio-temporal expression and subcellular localization will accelerate understanding their multiple functions.

A-21311 was used in Western Blotting to investigate the role of K8/K18 intermediate filaments in the regulation of insulin receptor signalling and trafficking in hepatocytes.

A-21311 was used in Immunocytochemistry to study protection of larval sensory neurons after a global switch in sensitivity to apoptotic signals by nanos-mediated repression of hid.
A-21311 was used in Immunocytochemistry to conclude that Fgfbp1 is a crucial extracellular matrix protein during BBB maturation that regulates cell-cell interactions and Wnt/-catenin activity.

Tag / 1:300
"Fgfbp1 promotes blood-brain barrier development by regulating collagen IV deposition and maintaining Wnt/-catenin signaling."
Author(s):Cottarelli A,Corada M,Beznoussenko GV,Mironov AA,Globisch MA,Biswas S,Huang H,Dimberg A,Magnusson PU, Agalli D,Lampugnani MG,Dejana E
PubMed Article URL:http://dx.doi.org/10.1242/dev.185140

A-21311 was used in Immunocytochemistry-immunofluorescence to show that extracellular vesicle cargo can be modified by lentiviral vectors to enrich specific miRNAs to achieve a specific angiogenic potential.

Tag / Not Cited
PloS one (Aug 2022; 17: )
"Overexpression of mir-135b and mir-210 in mesenchymal stromal cells for the enrichment of extracellular vesicles with angiogenic factors."
Author(s):Vieira JMF,Zamproni LN,Wendt CHC,Rocha de Miranda K,Lindoso RS,Won Han S
PubMed Article URL:http://dx.doi.org/10.1371/journal.pone.0272962

A-21311 was used in Immunocytochemistry-immunofluorescence to demonstrate that delivery of MuSCs in the engineered matrix may be a suitable platform for treating craniofacial and limb muscle trauma, as well as postoperative wounds of elderly and dystrophic patients.

Tag / 1:250
Science advances (Aug 2018; 4: )
"Synthetic matrix enhances transplanted satellite cell engraftment in dystrophic and aged skeletal muscle with comorbid trauma."
Author(s):Han WM,Anderson SE,Mohiuddin M,Barros D,Nakhai SA,Shin E,Amaraal IF,Pêgo AP,Garcia AJ,Jang YC
PubMed Article URL:http://dx.doi.org/10.1126/sciadv.aar4008

A-21311 was used in Immunocytochemistry to characterise centrosome duplication in human epidermis, Bowen's disease and squamous cell carcinoma using immunofluorescence.

Tag / 1:400
Journal of dermatological science (Jul 2018; 91: 9)
"Characterization of centriole duplication in human epidermis, Bowen's disease, and squamous cell carcinoma."
Author(s):Watanuki S,Fujita H,Kouyama K,Amagai M,Kubo A
PubMed Article URL:http://dx.doi.org/10.1016/j.jdermsci.2018.03.008

A-21311 was used in Immunocytochemistry to use the early steps in the apoptotic process using super-resolution microscopy.

Tag / 1:100
Cell death & disease (Jul 2021; 12: )
"Super-resolution microscopy reveals that Na-sup>\rightarrow</sup>\rightarrow</sup>K-sup>\rightarrow</sup>\rightarrow</sup>ATPase signaling protects against glucose-induced apoptosis by deactivating Bad."
Author(s):Bernheim K,Fonjama JM,Svensson D,Zhang L,Nilsson LM,Scott L,Blom H,Brismar H,Aperia A
PubMed Article URL:http://dx.doi.org/10.1038/s41419-021-04025-8

A-21311 was used in Immunohistochemistry to report the use of conventional, commercially available fluorescent dyes for rapid and intense covalent labeling of proteins and carbohydrates in super-resolution (expansion) microscopy and cleared tissue microscopy.

Tag / Not Cited
Science advances (May 2020; 6: )
"Feature-rich covalent stains for super-resolution and cleared tissue fluorescence microscopy."
PubMed Article URL:http://dx.doi.org/10.1126/sciadv.aba4542

A-21311 was used in Immunocytochemistry-immunofluorescence to uncover an unexpected plasticity of the meiotic programme and show how chromosome signalling orchestrates nuclear organisation and meiotic progression.

Tag / 1:200
Nature communications (Aug 2020; 11: )
"Surveillance of cohesin-supported chromosome structure controls meiotic progression."
Author(s):Castellano-Pozo M,Pacheco S,Soutas G,Jaso-Tamame AL,Dore MH,Karimi MM,Martínez-Pérez E
PubMed Article URL:http://dx.doi.org/10.1038/s41467-020-18219-9

A-21311 was used in Immunocytochemistry-immunofluorescence to show that the canonical CaCC Anoctamin 1 (Ano1, TMEM16a) plays an important role in lymphatic smooth muscle pacemaking.

Tag / Not Cited
The Journal of general physiology (Apr 2019; 151: 532)
"Ano1 mediates pressure-sensitive contraction frequency changes in mouse lymphatic collecting vessels."
Author(s):Zawieja SD,Castroena JA,Gui P,Li M,Bulley SA,Jaggar JH,Rock JR,Davis MJ
PubMed Article URL:http://dx.doi.org/10.1085/jgp.201812294


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<table>
<thead>
<tr>
<th>Species / Dilution</th>
<th>Summary</th>
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<tbody>
<tr>
<td>A-21311 was used in immunohistochemistry - frozen section to analyze the adoption of mature haematopoietic fates in ischaemic myocardium by haematopoietic stem cells</td>
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<td>A-21311 was used in immunohistochemistry - frozen section to study regulation of radial axonal sorting and myelination in the PNS by adenosomatous polyposis coli</td>
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<tr>
<td>A-21311 was used in Immunohistochemistry-immunofluorescence to investigate the exact mechanisms through which Oligodendrocyte progenitor cells might influence brain function.</td>
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<tr>
<td>A-21311 was used in immunohistochemistry - frozen section to investigate the role of recipient fibroblasts to airway fibrosis in murine model of tracheal transplantsations.</td>
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<tr>
<td>Transplant international : official journal of the European Society for Organ Transplantation (Jun 2015; 28: 761) &quot;Fibroblasts of recipient origin contribute to airway fibrosis in murine tracheal transplantsations.&quot; Author(s):Koneeda C,Nakajima J,Murakawa T PubMed Article URL: <a href="http://dx.doi.org/10.1111/tri.12525">http://dx.doi.org/10.1111/tri.12525</a></td>
<td></td>
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<tr>
<td>A-21311 was used in immunohistochemistry - frozen section to apply quantitative gene expression methods to analyze the differentiation process of fetal liver progenitor cells after transplantation into an animal model of liver regeneration.</td>
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<tr>
<td>A-21311 was used in immunohistochemistry - frozen section to use transgenic mice to identify adult multipotent neural progenitors in vivo</td>
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<tr>
<td>Nature neuroscience (Nov 2004; 7: 1233) &quot;GFAP-expressing progenitors are the principal source of constitutive neurogenesis in adult mouse forebrain.&quot; Author(s):Garcia AD,Doan NB,Imura T,Bush TG,Sofroniew MV PubMed Article URL: <a href="http://dx.doi.org/10.1038/nn1340">http://dx.doi.org/10.1038/nn1340</a></td>
<td></td>
</tr>
<tr>
<td>A-21311 was used in immunohistochemistry - frozen section to study the fate of somatic stem cells after transplantation due to improvement of combined immunofluorescence and FISH</td>
<td></td>
</tr>
</tbody>
</table>
A-21311 was used in immunohistochemistry - frozen section to assess if acute retention of cells in cardiac tissue can be improved using a biomaterial carrier

Biomaterials (Aug 2014; 35: 6850)
"Comparison of biomaterial delivery vehicles for improving acute retention of stem cells in the infarcted heart."
Author(s): Roche ET, Hastings CL, Lewin SA, Shwartsman D, Brudno Y, Vasilyev NV, O'Brien FJ, Walsh CJ, Duffy GP, Mooney DJ
PubMed Article URL: http://dx.doi.org/10.1016/j.biomaterials.2014.04.114

A-21311 was used in immunohistochemistry - frozen section to investigate the contribution of endothelial Notch signaling to vessel remodeling and maturation

Development (Cambridge, England) (Jul 2011; 140: 3051)
"Notch controls retinal blood vessel maturation and quiescence."
Author(s): Ehling M, Adams S, Benedetto R, Adams RH
PubMed Article URL: http://dx.doi.org/10.1242/dev.093351

A-21311 was used in immunohistochemistry - frozen section to examine the spatiotemporal expression of Pax6 isoforms in the vertebrate retina

Developmental biology (Jul 2007; 307: 498)
"Mechanisms controlling Pax6 isoform expression in the retina have been conserved between teleosts and mammals."
Author(s): Lakowski J, Majumder A, Lauderdale JD
PubMed Article URL: http://dx.doi.org/10.1073/pnas.2637010100

A-21311 was used in immunohistochemistry - frozen section to study reconstitution from single stem cells by shifting foci of hematopoiesis

Proceedings of the National Academy of Sciences of the United States of America (Jan 2004; 101: 221)
"Shifting foci of hematopoiesis during reconstitution from single stem cells."
Author(s): Cao YA, Wagers AJ, Beilhack A, Dusich J, Bachmann MH, Negrin RS, Weissman IL, Contag CH
PubMed Article URL: http://dx.doi.org/10.1073/pnas.0311778101

A-21311 was used in immunohistochemistry - frozen section to visualize B cells in lymph node germinal centers in vivo

Nature (Mar 2007; 446: 83)
"In vivo imaging of germinal centres reveals a dynamic open structure."
PubMed Article URL: http://dx.doi.org/10.1038/nature05573

A-21311 was used in Immunohistochemistry (Frozen) to provide in vivo evidence that the mesenchymal niche controls tumour initiation in trans.

Nature (Apr 2020; 580: 524)
"Paracrine orchestration of intestinal tumourigenesis by a mesenchymal niche."
PubMed Article URL: http://dx.doi.org/10.1038/s41563-020-2166-3

A-21311 was used in immunohistochemistry - frozen section to determine how Apln-CreER can target genetically and sprout angiogenesis

Nature communications (Jan 2015; 6: )
"Genetic targeting of sprouting angiogenesis using Apln-CreER."
PubMed Article URL: http://dx.doi.org/10.1038/ncomms9702

11 Flow Cytometry References

Species / Dilution

Summary
A-21311 was used in Flow cytometry/Cell sorting to document that Foxn1 and Hif-1 cooperatively regulate dWAT during the proliferative phase of skin wound healing through the Igf2 signaling pathway, and reduce the macrophages content in the wound site.

International journal of molecular sciences (Dec 2021; 23: )
"Dermal White Adipose Tissue (dWAT) Is Regulated by Foxn1 and Hif-1 during the Early Phase of Skin Wound Healing."
Author(s): Gawronska-Kozak B, Walendzik K, Machcinska S, Padzik A, Kopcewicz M, Winiewska J
PubMed Article URL: http://dx.doi.org/10.3390/ijms23010257


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A-21311 was used in Flow cytometry/Cell sorting to implicate hair follicle-derived cytokines as regulators of malignant and non-malignant TRM cell tissue residence.

Nature medicine (Nov 2015; 21: 1272)
"Hair follicle-derived IL-7 and IL-15 mediate skin-resident memory T cell homeostasis and lymphoma."
Author(s):Adachi T,Kobayashi T,Sugihara E,Yamada T,Ikuta K,Pittaluga S,Saya H,Amagai M,Nagao K
PubMed Article URL:http://dx.doi.org/10.1038/nm.3962

A-21311 was used in Flow Cytometry to investigate whether MeCP2 is the sole reader for Dnmt3a dependent methylation by comparing mice lacking either protein in GABAergic inhibitory neurons.

eLife (Mar 2020: 9: )
"Losing Dnmt3a dependent methylation in inhibitory neurons impairs neural function by a mechanism impacting Rett syndrome."
PubMed Article URL:http://dx.doi.org/10.7554/elife.52981

A-21311 was used in Flow Cytometry to suggest that cells respond to infection by upregulating the antiviral cytokine interferon-beta (IFN-ß) in a fraction of infected cells.

STAR protocols (Jun 2021; 2: )
"Detecting single cell interferon-beta production using a fluorescent reporter telomerase-immortalized human fibroblast cell line."
Author(s):Hare DN,Subapanditha MK,Mossman KL
PubMed Article URL:http://dx.doi.org/10.1016/j.xpro.2021.100436

A-21311 was used in Flow cytometry/Cell sorting to find that the chemokine receptor CXCR3 is highly expressed on viral-specific stem-like CD8+ T cells and that one of its ligands, CXCL10, regulates the persistence and heterogeneity of responding CD8+ T cells in spleens of mice chronically infected with lymphocytic choriomeningitis virus.

Immunity (Jan 2022; 55: 82)
"CXCL10 chemokine regulates heterogeneity of the CD8-sup+ T cell response and viral set point during chronic infection."

A-21311 was used in flow cytometry to develop viral vectors to treat patients with Rett Syndrome

PloS one (Aug 2009; 4: )
"MECP2 isoform-specific vectors with regulated expression for Rett syndrome gene therapy."
PubMed Article URL:http://dx.doi.org/10.1371/journal.pone.0006810

A-21311 was used in Flow cytometry/Cell sorting to indicate that increasing the number of cytotoxic Tim-3+ CD8+ T cells can promote effective anti-tumor immunity and implicate PTPN2 in immune cells as an attractive cancer immunotherapy target.

Nature immunology (Oct 2019; 20: 1335)
"PTPN2 regulates the generation of exhausted CD8<sup>+</sup> T cell subpopulations and restrains tumor immunity."
Author(s):LaFleur MW,Nguyen TH,Coxe MA,Miller BC,Yates KB,Gillis JE,Sen DR,Gaudiano EF,Al Abery R,Freeman GJ,Haining WN,Sharpe AH
PubMed Article URL:http://dx.doi.org/10.1038/s41590-019-0480-4

A-21311 was used in Flow cytometry/Cell sorting to deduce that limited progenitor-driven regeneration and remnant tubular cell hypertrophy involves renal functional recovery upon acute kidney injury.

Nature communications (Apr 2018; 9: )
"Endocycle-related tubular cell hypertrophy and progenitor proliferation recover renal function after acute kidney injury."
PubMed Article URL:http://dx.doi.org/10.1038/s41467-018-03753-4


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A-21311 was used in Flow Cytometry to demonstrate a major role for sensory neurons in promoting the tissue-repair function of macrophages.

**Tag / Not Cited**

*Nature (Jun 2021; 594; 94)*

"Sensory neuron-derived TAF4A promotes macrophage tissue repair functions."


PubMed Article URL: http://dx.doi.org/10.1038/s41586-021-03563-7

**Tag / Not Cited**

A-21311 was used in Flow Cytometry/Cell sorting to suggest that CD19-CAR regulatory T cells can treat autoantibody-mediated autoimmune diseases by suppressing B cell pathology.

**Tag / Not Cited**

*JCI insight (Jul 2020; 5;)*

"CD19-targeted CAR regulatory T cells suppress B cell pathology without GvHD."

Author(s): Imura Y, Ando M, Kondo T, Ito M, Yoshimura A

PubMed Article URL: http://dx.doi.org/10.1172/jci.insight.136185

**Tag / Not Cited**

A-21311 was used in Flow Cytometry/Cell sorting to reveal retinoic acid (RA) as an unexpected microbiota-derived metabolite that primes innate defense and suggests that pre- and probiotic approaches to elevate RA could prevent or combat infections.

**Tag / Not Cited**

*Cell host & microbe (Dec 2021; 29: 1744)*

"Commensal segmented filamentous bacteria-derived retinoic acid primes host defense to intestinal infection."


PubMed Article URL: http://dx.doi.org/10.1016/j.chom.2021.09.010

### 4 Western Blot References

#### Summary

**Species / Dilution**

A-21311 was used in Western Blotting to show the antiviral activity of SAMHD1 is regulated by proteasomal degradation activated by E3 ubiquitin ligase TRIM21.

**Tag / Not Cited**

*EMBO reports (Jan 2020; 21;)*

"TRIM21-mediated proteasomal degradation of SAMHD1 regulates its antiviral activity."


PubMed Article URL: http://dx.doi.org/10.1525/embr.201847528

A-21311 was used in Western Blot to report a novel role of the deubiquitinase, USP21, in HIV-1 infection. USP21 represents a potentially useful target for the development of novel anti-HIV drugs.

**Tag / Not Cited**

*Journal of virology (Jun 2021; 95;)*

"Deubiquitinating Enzyme USP21 Inhibits HIV-1 Replication by Downregulating Tat Expression."


PubMed Article URL: http://dx.doi.org/10.1128/JVI.00460-21

A21311 was used in Western Blot to determine RD26 interacts with BES1 protein to antagonize BES1 transcriptional activity on brassinosteroid-regulated genes.

**Tag / Not Cited**

*Nature communications (Feb 2017; 8;)*

"RD26 mediates crosstalk between drought and brassinosteroid signalling pathways."


PubMed Article URL: http://dx.doi.org/10.1038/ncomms14573

A-21311 was used in Western Blotting to investigate the role of K8/K18 intermediate filaments in the regulation of insulin receptor signaling and trafficking in hepatocytes.

**Tag / Not Cited**

*FASEB journal : official publication of the Federation of American Societies for Experimental Biology (Aug 2017; 31: 3555)*

"Keratin 8/18 regulation of insulin receptor signaling and trafficking in hepatocytes through a concerted phosphoinositide-dependent Akt and Rab5 modulation."

Author(s): Roux A, Loranger A, Lavoie JN, Marceau N

PubMed Article URL: http://dx.doi.org/10.1096/fj.201700036R

### 6 Immunohistochemistry (Paraffin) References

#### Summary

**Species / Dilution**

Nature communications (Feb 2017; 8;)

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PubMed Article URL: http://dx.doi.org/10.1128/JVI.00460-21

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Author(s): Roux A, Loranger A, Lavoie JN, Marceau N

PubMed Article URL: http://dx.doi.org/10.1096/fj.201700036R
A-21311 was used in immunohistochemistry - paraffin section to describe protocols for tamoxifen-inducible gene deletion of neonatal mice, retina dissection, whole-mount immunostaining, and the quantitation of endothelial cell sprouting and proliferation.

Tag / Not Cited

Nature protocols (Sep 2010; 5: 1518)
"Inducible gene targeting in the neonatal vasculature and analysis of retinal angiogenesis in mice."
Author(s):Pitulescu ME,Schmidt I,Benedito R,Adams RH
PubMed Article URL:http://dx.doi.org/10.1038/nprot.2010.113

A-21311 was used in immunohistochemistry (Paraffin) to identify an undifferentiated cell population that's intermingled with the Bergmann glia of the adult murine cerebellar cortex, expressing stem cell markers, and lacking markers of glial or neuronal differentiation.

Tag / 1:200

Scientific reports (Jul 2017; 7: )
"Neurogenesis from Sox2 expressing cells in the adult cerebellar cortex."
Author(s):Altfeld J,Filszer S,Schmidt F,Wefers AK,Merk DJ,Glaß R,Herrms J,Schüller U
PubMed Article URL:http://dx.doi.org/10.1038/s41598-017-06150-x

A-21311 was used in immunohistochemistry - paraffin section to investigate how chromosome mobility impacts different early meiotic events that promote homolog pairing.

Tag / 1:300

PLoS genetics (May 2013; 9: )
"Chromosome movements promoted by the mitochondrial protein SPD-3 are required for homology search during Caenorhabditis elegans meiosis."
Author(s):Labrador L,Barroso C,Lightfoot J,Müller-Reichert T,Filbotte S,Taylor J,Moerman DG,Villeneuve AM,Martinez-Perez E
PubMed Article URL:http://dx.doi.org/10.1371/journal.pgen.1003497

A-21311 was used in immunohistochemistry - paraffin section to elucidate the contribution of E-cadherin to trophoderm formation in vivo.

Tag / 1:100

"Gene replacement reveals a specific role for E-cadherin in the formation of a functional trophoderm."
Author(s):Kan NG,Stemmler MP,Junghans D,Kanzler B,de Vries WN,Dominis M,Kemler R
PubMed Article URL:http://dx.doi.org/10.1242/dev.02722

A-21311 was used in immunohistochemistry - paraffin section to study the recruitment into fibrotic lesions by in vivo characterization of bone marrow-derived fibroblasts.

Tag / Not Cited

Stem cells (Dayton, Ohio) (May 2005; 23: 699)
"In vivo characterization of bone marrow-derived fibroblasts recruited into fibrotic lesions."
Author(s):Ishii G,Sangai T,Sugiyama K,Itö T,Hasebe T,Endoh Y,Magae J,Ochiai A
PubMed Article URL:http://dx.doi.org/10.1634/stemcells.2004-0183

A-21311 was used in immunohistochemistry - paraffin section to investigate how intestinal L cells sense glucose.

Tag / 1:1000

Proceedings of the National Academy of Sciences of the United States of America (Sep 2007; 104: 15069)
"Gut-expressed gustducin and taste receptors regulate secretion of glucagon-like peptide-1."
Author(s):Ishii G,Sangai T,Sugiyama K,Itö T,Hasebe T,Endoh Y,Magae J,Ochiai A
PubMed Article URL:http://dx.doi.org/10.1073/pnas.0706890104

A-21311 was used in immunohistochemistry - paraffin section to identify early populations of committed progenitors derived from human embryonic stem cells.

Species / Dilution

Summary

A-21311 was used in immunocytochemistry to identify early populations of committed progenitors derived from human embryonic stem cells.

Tag / 1:200

Nature biotechnology (May 2012; 30: 531)
"Isolation of primitive endoderm, mesoderm, vascular endothelial and trophoblast progenitors from human pluripotent stem cells."
PubMed Article URL:http://dx.doi.org/10.1038/nbt.2239

A-21311 was used in Sample Preparation to investigate the concentration of immunoglobulins in faecal extracts, as a method of assessing the production of immunoglobulins by the gut mucosa of 137 dogs.

Tag / 1:400

The Veterinary record (Mar 2006; 158: 334)
"Total and relative deficiency of gut mucosal IgA in German shepherd dogs demonstrated by faecal analysis."
Author(s):Littler RM,Batt RM,Lloyd DH
PubMed Article URL:http://dx.doi.org/10.1136/vr.158.10.334

10 Miscellaneous PubMed References
A-21311 was used in immunohistochemistry (frozen) to study the role of Sox2 activity in neural differentiation.

A-21311 was used in immunohistochemistry (frozen) to study the role of the endoderm in establishing the left-right axis.

A-21311 was used in immunocytochemistry to study via high-throughput methods the quantitative volumetric interrogation of spatially-irregular and friable tissue structures.

A-21311 was used in immunohistochemistry to identify neurons in the Drosophila optic lobes that release gamma aminobutyric acid.

A-21311 was used in immunocytochemistry (frozen) to study the role of Sox2 activity in neural differentiation.

A-21311 was used in immunocytochemistry (frozen) to study the role of eotaxin-1-regulated eosinophils in innate immunity against experimental Brugia malayi infection.

A-21311 was used in immunohistochemistry to show that the presence of eosinophils is critical for innate clearance of B. malayi Mf infection, whereas rapid clearance of secondary infections is independent of both eotaxin-1 and IL-5.

A-21311 was used in immunohistochemistry (frozen) to study the role of eotaxin-1-regulated eosinophils in innate immunity against experimental Brugia malayi infection.

A-21311 was used in immunohistochemistry to identify neurons in the Drosophila optic lobes that release gamma aminobutyric acid.

A-21311 was used in immunocytochemistry to study the biophysical properties of amytotrophic lateral sclerosis-linked mutations of Cu/Zn superoxide dismutase 1 in human cells.

A-21311 was used in immunohistochemistry to examine the effects of sleep and wake on astrocytes.

A-21311 was used in immunohistochemistry to identify neurons in the Drosophila optic lobes that release gamma aminobutyric acid.

A-21311 was used in immunocytochemistry to identify neurons in the Drosophila optic lobes that release gamma aminobutyric acid.


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A-21311 was used in ChIP assay to protect preimplantation mouse embryos from endogenous retrotransposons by histone chaperone CAF-1 mediating repressive histone modifications

Proceedings of the National Academy of Sciences of the United States of America (Nov 2015; 112: 14641)
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### 3 Immunohistochemistry - Free Floating References

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