



An NIDDK Resource

# What do you really know about that antibody?

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University of California, San Diego  
SciCrunch Inc

# Ask dknet.org

The NIDDK Information Network



# Disclosures

Maryann Martone is a founder and CSO of SciCrunch Inc, a start up building tools and services around Research Resource Identifiers (RRIDs)



<https://www.scicrunch.com/>

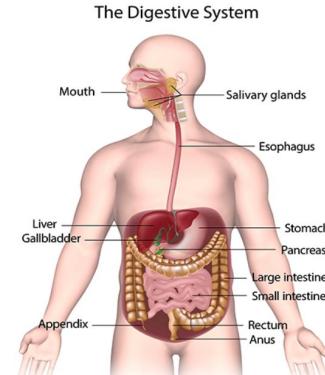


# WHO IS dkNET'S TARGET AUDIENCE?

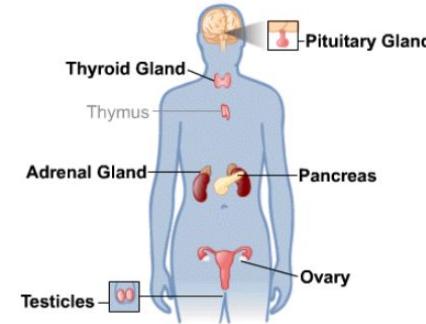
- Basic and clinical researchers in diabetes, digestive, obesity, endocrine, metabolic, kidney, urologic, nutrition, bone and blood diseases.
- Tools and services are **relevant across all biomedical domains**



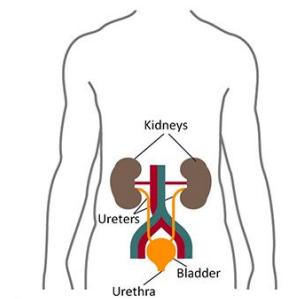
Diabetes



Digestive System



Endocrine System



Urinary System

Image credits: NIDDK, NLM



# About dkNET

- Research resource information portal for biomedical researchers
- Information network to connect DK researchers and NIH-funded centers
- Funded by National Institute of Health (NIH) - National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)
- Developed and maintained by the FAIR Data Informatics Laboratory (fdilab.org) at UCSD (Supports major informatics projects in neuroscience and biomedicine)



National Institute of  
Diabetes and Digestive  
and Kidney Diseases



# dkNET Portal <https://dknet.org>

Use dkNET to:

1. Find and evaluate research resources for your research
2. Comply with funder mandates on rigor and reproducibility and FAIR data
3. Search across 100's of biomedical databases
4. Access powerful bioinformatics tools

The screenshot shows the dkNET homepage with a dark blue header and an orange navigation bar. The header includes links for ABOUT, RESOURCE REPORTS, DISCOVERY PORTAL, AUTHENTICATION REPORT, and HYPOTHESIS CENTER. The main content area has a dark blue background with white text. It features four main sections numbered 1 through 4:

- 1 Resource Reports**: A circular icon with the number 1. Description: "Is my antibody specific? Who else is using my software tools? Answer these questions and more using Research Resource Identifiers (RRIDs)." Tools listed: Tools | Cell lines | Antibodies | Organisms | Plasmids | Biosamples.
- 2 Authentication Reports & FAIR Data**: A circular icon with the number 2. Description: "View resources on how to comply with NIH's new policies on authentication of key biological resources, using our authentication reports, and making data FAIR." Tools listed: Authentication reports | Research data management | Suggested data repositories.
- 3 Discovery Portal**: A circular icon with the number 3. Description: "Search across 100s of biomedical databases for..." Tools listed: Funding | Images | Phenotypes | Literature | and more.
- 4 Hypothesis Center**: A circular icon with the number 4. Description: "Analyze diverse 'omics data to generate or test research hypotheses – powered by the Signaling Pathways Project."

Below these sections are three promotional boxes:

- dkNET Webinar**: The Type 2 Diabetes Knowledge Portal. Friday, February 28, 2020, 11am-12pm (PT). dkNET Webinar Series.
- dkNET New Investigator Pilot Program in Bioinformatics**: Application Due Date: February 14, 2020.
- NOW ACCEPTING APPLICATIONS**: Application Deadline: April 17, 2020. 2020 dkNET Summer of Data Student Intern.

At the bottom right is a link to the Contact help desk.



# Hypothesis Center - Signaling Pathways Project



Consensome (beta)

Category: Receptors  
Class: Nuclear receptors  
Family: Thyroid hormone receptors  
Species: House Mouse  
Physiological System: All  
Organ: All

Calculated across X data points from Y experiments in Z datasets.

Show 50 entries

Target	Gene Name
Bcl3	B cell leukemia/lymphoma 3
Idh3a	isocitrate dehydrogenase (NADP+)-like 3a
Mmd	monocyte to macrophage differentiation marker
Stat5a	signal transducer and activator of transcription 5a
Ndrg1	N-myc downstream regulated gene 1
Trp53inp2	transformation related protein 53 interacting protein 2
Ces1f	carboxylesterase 1f
Ephx1	epoxide hydrolase 1, nomenclature

**Regulation Report**

Transcriptomics

Display by: Category Down Up Currently displaying 300 out of 300 data points.

Transcript Relative Abundance (Fold Change) Export Graph

Receptors | Catalytic receptors

- Collagen receptor family
- NILO1

Epidermal growth factor receptors

- AG478
- EGF
- GEF1T
- ERBB2
- EGF

Fibroblast growth factor receptors

- FGF19

Hepatocyte growth factor receptors

- PHA665
- HGF

IL1 receptor family

- IL18

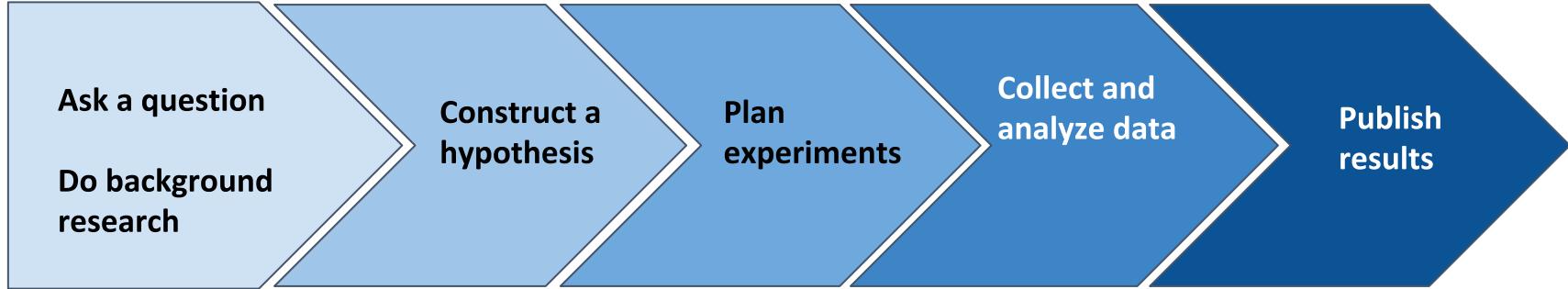
Detailed description: This figure is a scatter plot titled 'Regulation Report' under the 'Transcriptomics' tab. It displays the transcript relative abundance (fold change) for various receptors. The x-axis represents the fold change, ranging from -7.5 to 12.5. The y-axis lists receptor families and specific genes. Red dots represent upregulated genes, while blue dots represent downregulated genes. The plot shows significant upregulation in the EGF and ERBB2 families, and downregulation in the AG478 and FGF19 families.

SPP simplifies data mining of 'omics data, connects bench researchers to FAIR data to allow them to easily interrogate the data to generate hypotheses

- **Find genes** with important roles in receptors, enzymes, organs and tissues,
- **Define signaling pathways** relevant to a single gene or a regulation,



# How Can dkNET Help Researchers?



**Discovery Portal**

- Information
- Material
- Data
- Tools
- Funded grant and funding opportunities
- Literature
- Tutorials



**Hypothesis Center**



**Resource Reports**



**Authentication Reports**

- Resource Identification
- Authentication plans
- NIH Mandates on Rigor and Reproducibility for grant submission



**Resource Reports**



**Hypothesis Center**



**FAIR Data Resources**

- Data Management
- Data Repositories

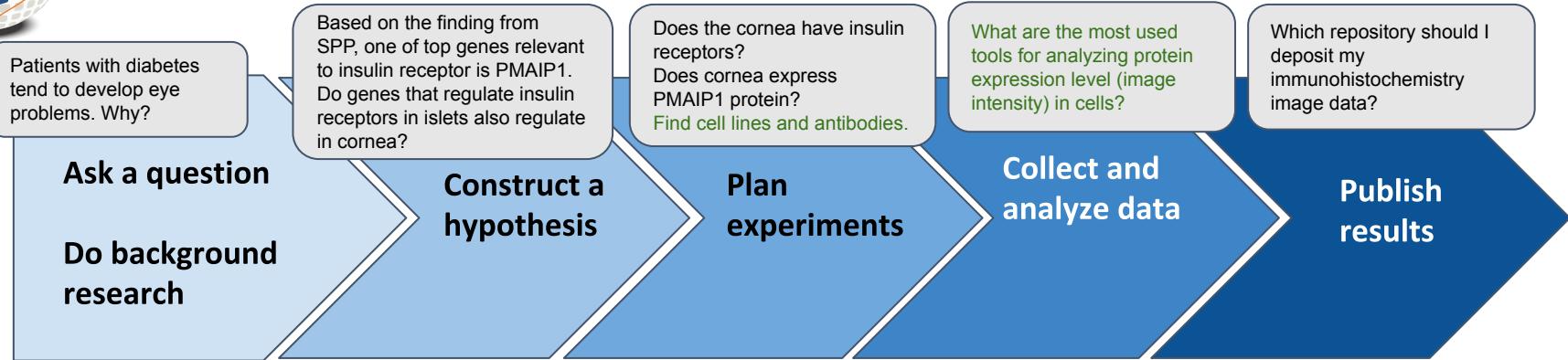


**Resource Reports**

- Cite RRID
- Track Resources



# How Can dkNET Help Researchers? (DEMO)



- Discovery Portal
- Information
  - Material
  - Data
  - Tools
  - Funded grant and funding opportunities
  - Literature
  - Tutorials



## Hypothesis Center



## Resource Reports



## Authentication Reports

- Resource Identification
- Authentication plans
- NIH Mandates on Rigor and Reproducibility for grant submission



## Resource Reports



## Hypothesis Center



## FAIR Data Resources

- Data Management
- Data Repositories



## Resource Reports

- Cite RRID
- Track Resources



# What is a research resource?

Research resources are any tools used by researchers in the conduct of their studies. Examples include reagents, digital tools, DNA constructs, cells, samples and organisms.

# And what do you know about them?

## Incorrect ICBM-DTI-81 atlas orientation and white matter labels

T. Rohlfing\*

Science and Society | Published: 07 May 2010

## Cell line misidentification: the beginning of the end

### Investigation of Cross-Contamination and Misidentification of 278 Widely Used Tumor Cell Lines

Yaqing Huang, Yuehong Liu, Congyi Zheng, Chao Shen

Published: January 20, 2017 • <https://doi.org/10.1371/journal.pone.0170384>

### Cautionary notes on the use of NF-κB p65 and p50 antibodies for CNS studies

Miles Herkenham, Priyanka Rathore, Pierre Brown and Samuel J Listwak

Journal of Neuroinflammation 2011 8:141

<https://doi.org/10.1186/1742-2094-8-141> | © Herkenham et al; licensee BioMed Central Ltd. 2011

RESEARCH ARTICLE

### The Effects of FreeSurfer Version, Workstation Type, and Macintosh Operating System Version on Anatomical Volume and Cortical Thickness Measurements

1. How do I decide which disease model is best for me? What is the best model for my disease of interest? What is your most

rearch the literature thoroughly, talk to colleagues, and review strain datasheets. The g the specific strain curated into a reference list. The most popular strain is not given research question.

RESEARCH ARTICLE

### The ghosts of HeLa: How cell line misidentification contaminates the scientific literature

Serge P. J. M. Horbach, Willem Halfman

Published: October 12, 2017 • <https://doi.org/10.1371/journal.pone.0186281>

### Science News

from research organizations

### Misidentified and contaminated cell lines lead to faulty cancer science, experts say

Date: June 21, 2012

Source: University of Colorado Denver

Summary: Due to a high rate of contamination, misidentification and redundancy in widely available cell lines, researchers may be drawing faulty conclusions, experts say.



# Resource Reports

Find and evaluate key research resources:

Antibodies, organisms, cell lines, tools and services, plasmids, biosamples



# What resources can I use...?

dkNET  
provides  
unified search  
of key  
registries for  
research  
resources

ABOUT RESOURCE REPORTS DISCOVERY PORTAL AUTHENTICATION REPORT HYPOTHESIS CENTER MY ACCOUNT 56 ▾

## Resource Report Types

Home / Resource Report Types

A dkNET resource report offers a detailed overview of each resource, citation metrics from biomedical literature, information about what resources have been used together and more.

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**Tools**  
A curated repository of scientific resources, managed by SciCrunch, with a focus on biomedical resources, including tools, databases, materials, and more.

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**Antibodies**  
Antibodies from the [Antibody Registry](#), an authoritative source for antibody identifiers.

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**Plasmids**  
Plasmids from [Addgene](#), a repository of published plasmids for use in research.

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**Cell lines**  
Cell line data collected by [Cellosaurus](#) from various sources.

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**Organisms**  
A virtual database indexing available animal strains and mutants from various sources.

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**BioSamples**  
Biosamples registered with [NCBI BioSample](#) (initially from the IIDP, Integrated Islet Distribution Program), a database containing biological source materials used in experimental assays.

>Contact help desk



# Resource Reports



## Resource Summary Report

[Home](#) / [Resource Reports](#) / [Antibodies](#) / [Resource Summary Report](#)

### Antibody Name

**Phospho-Akt (Ser473) antibody**

RRID:AB\_2315049

[PDF REPORT](#)

Key metadata

### Antibody Information

URL: [http://antibodyregistry.org/AB\\_2315049](http://antibodyregistry.org/AB_2315049)

Description: This monoclonal antibody targets Ser473

Antibody Name: Phospho-Akt (Ser473) antibody

Proper Citation: (Cell Signaling Technology Cat# 4060, RRID:AB\_2315049)

Target Antigen: Ser473, anti-Ser473

Clone ID: Clone D9E

References: PMID:23749404, PMID:23825125, PMID:24264880, PMID:25490933, PMID:25574706, PMID:25714812, PMID:25751639, PMID:25774554, PMID:25815422, PMID:26270730, PMID:26295369, PMID:26653334, PMID:26881311, PMID:27...[more]

Citations

### Usage and Citation Metrics

We found 199 mentions in open access literature.

[View full usage report](#)

Most recent articles:

Dodd GT, et al. (2019) Intranasal Targeting of Hypothalamic PTP1B and TCPTP Reinstates Leptin and Insulin Sensitivity and Promotes Weight Loss in Obesity. *Cell reports*, 28(11), 2905-2922.e5. (PMID:31509751)

Kaslinson SY, et al. (2019) TRPML1 Promotes Protein Homeostasis in Melanoma Cells by Negatively Regulating MAPK and mTORC1 Signaling. *Cell reports*, 28(9), 2293-2305.e9. (PMID:31461647)

Abdi K, et al. (2019) EGFR Signaling Termination via Numb Trafficking in Ependymal Progenitors Controls Postnatal Neurogenic Niche Differentiation. *Cell reports*, 28(8), 2012-2022.e4. (PMID:31433979)

Alerts ratings

### Ratings and Alerts

Rated by Intestinal Stem Cell Consortium <https://isccconsortium.org/resourcecatalog/>

No alerts have been found for Phospho-Akt (Ser473) antibody.

### Authentication Plan

dkNET can assist you in preparing authentication plans for antibodies to comply with the NIH Submission Policy. The information can be used while planning your experiments or submitting grant applications. The authentication plan for antibodies is based on methods suggested in "A proposal for validation of antibodies" (Uhlen M et. al., 2016), the guideline published in the Journal of Comparative Neurology (Saper C, 2005)(2), and the example "Authentication of Key Biological and/or Chemical Resources" (Bandrowski A). For best practices for authenticating antibodies, check our Authentication Reports services.

Who uses it?



## Resource Usage Report

[Home](#) / [Resource Reports](#) / [Antibodies](#) / [Resource Summary Report](#) / [Resource Usage Report](#)

### Antibody Name

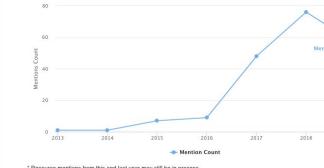
**Phospho-Akt (Ser473) antibody**

RRID:AB\_2315049

[DOWNLOAD MENTIONS](#)

### Usage

#### Articles by Year



What resources are used with it?

Please note that when co-mention number is small, resources listed here do not mean that they are frequently used together. We are also aware that commercial organizations are in the list and we are currently working on improving this service by removing these organizations.

- [Download Front](#)
- All Antibody
- All IgGs (CAT#1) Rabbit mAb antibody
- All IgGs (CAT#1) Rabbit polyclonal antibody
- Phospho-p44/42 MAPK (Erk1/2) (Thr202/Tyr204) antibody
- p44/42 MAPK (Erk1/2) antibody
- IgM IgG
- ATCC
- Addgene
- Flashe
- Microsoft Excel

Find mentions based on location




Search using your location

[Additional Report Filters](#)

Filter by Publication Year

[All Mentions \(199 mentions\) \[Download Mentions\]](#)

- First Previous  Next Last Page 1 of 2 (1 - 100 of 199)
- Dodd GT, et al. (2019) Intranasal Targeting of Hypothalamic PTP1B and TCPTP Reinstates Leptin and Insulin Sensitivity and Promotes Weight Loss in Obesity. *Cell reports*, 28(11), 2905-2922.e5. (PMID:31509751)
  - Kaslinson SY, et al. (2019) TRPML1 Promotes Protein Homeostasis in Melanoma Cells by Negatively Regulating MAPK and mTORC1 Signaling. *Cell reports*, 28(9), 2293-2305.e9. (PMID:31461647)



# Resources Ratings, Issues and Alerts

## Ratings and Alerts ?

- Rated by Intestinal Stem Cell Consortium  
<https://isccconsortium.org/resourcecatalog/>

No alerts have been found for Phospho-Akt (Ser473) antibody.

dkNET aggregates information from multiple sources on issues, concerns and ratings (where available)

## Ratings and Alerts ?

No rating or validation information has been found for RBHF-1.

### ⚠ Problematic cell line

**Problematic cell line: Misidentified.** Originally thought to be a human hepatocellular carcinoma cell line but shown not to be of human origin (PubMed=10508494; PubMed=20143388). Registration: International Cell Line Authentication Committee, Register of Misidentified Cell Lines; ICLAC-00155.

## Ratings and Alerts ?

No rating or validation information has been found

### ⚠ Discontinued antibody

## Ratings and Alerts ?

- Validation data available at HPA - Atlas Antibody Company

<https://atlasantibodies.com/#!/products/TMX4-antibody-HPA000399>



# The Resource Information Network

Assembled a unique data set that aggregates information about key research resources for biomedical research using Research Resource Identifiers (RRIDs)

Sources and metadata



Literature



ENCODE

THE HUMAN PROTEIN ATLAS

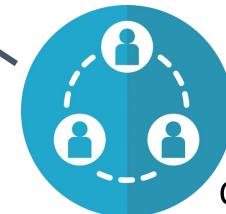


Validation & Ratings

RRID



Alerts



Collaborators



# WHAT ARE RRIDS?

- A persistent identifier for research resources
- dkNET was instrumental in the development and adoption of RRIDs
- Supplied by authors to identify resources in the materials and methods section
- Designed to answer two simple questions:
  - What resources were used in a study
  - Who else has published with this resource?

[RRID:AB\\_1855196](#)



Anti-PYY (ab1)  
antibody produced in chicken,  
affinity isolated antibody

Catalog Number [GW22771](#)

Formerly listed as GenWay Catalog Number 15-288-22771,  
Peptide YY Antibody.

Secondary antibody

Rabbit IgG	No. 21200, Alexa Fluor 488	cam
Sheep IgG	No. A21448, Alexa Fluor 647	Molecular Probes
Chicken IgG	No. 703-605-155, Alexa Fluor 647	Molecular Probes
Guinea pig IgG	No. 11073, Alexa Fluor 488	Jackson ImmunoResearch
Rabbit IgG	No. 31573, Alexa Fluor 647	Laboratories (West Grove, PA)
		Molecular probes
		Molecular probes

RRID Research Resource Identifier (<https://dknet.org/>)

[Fothergill LJ et al. Cell and Tissue Research. 375 \(2\) 359-69, 2019.](#)



# Growth of RRIDs

- RRIDs in use across major publishers:
  - Cell Press
  - Elsevier
  - Wiley
  - Nature
- 2019: Part of JATS standard (Journal Article Tag Suite)
- Over 212,000 resources have been identified in 22,000+ papers

**+1,200  
Distinct  
Journals**

Chart journals with RRID annotations by year

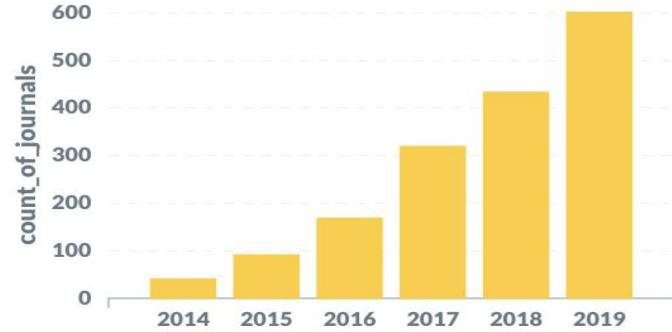
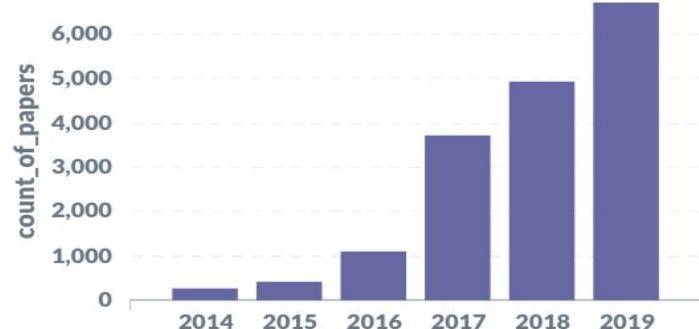


Chart of papers with RRID annotations by year





# What do you really know about that antibody?

Ask dkNET!



# How do I find good antibodies to PMAIP1?

**SUGGESTED SEARCH CRITERIA** Enter extra filters to help narrow your search

Vendor  Catalog Number

**SEARCH** Type in a keyword to search

Filter by records added date  
See new records

On page 1 showing 1 ~ 20 out of 118 results   1 2 3 4 >

Elastic Search Query  New Index

Can't find your antibody? Help us by registering it into the system — it's easy. Register it with the Antibody Registry (an Antibody Registry account is required. Create a free Antibody Registry account if you don't have one yet). An RRID will be generated in 1-2 business days.

Click the  to add this resource to an Authentication Report or Collection

Phorbol-12-myristate-13-acetate-induced Protein 1 (PMAIP1) Rabbit anti-Human Polyclonal (BH3 Domain) Antibody [View details](#)

[+ Add to an authentication report](#)

RRID:AB\_2166698  
[http://antibodyregistry.org/AB\\_2166698](http://antibodyregistry.org/AB_2166698)

**Comments:** vendor suggested use: ELISA  
**Host Organism:** rabbit  
**Clonality:** polyclonal antibody  
**Target(s):** PMAIP1, Phorbol-12-myristate-13-acetate-induced Protein 1 (PMAIP1) Rabbit anti Human Polyclonal (BH3 Dom)

[Contact help](#)



# Search results

SUGGESTED SEARCH CRITERIA Enter extra filters to help narrow your search

Vendor

Catalog Number

SEARCH Type in a keyword to search

PMAIP1

Search

Save search

Reset search

## Toggle between snippets and table view

See new records

Elastic Search Query

New Index

### Options

Create New Collection

### Facets

Target Antigen

Target Organism

Vendor

Clonality

Host Organism



Snippet view



Table view



«

1

2

3

4



Can't find your antibody? Help us by registering it into the system — it's easy. Register it with the Antibody Registry (an Antibody Registry account is required. Create a free Antibody Registry account if you don't have one yet). An RRID will be generated in 1-2 business days.

Click the  to add this resource to an Authentication Report or Collection

Phorbol-12-myristate-13-acetate-induced Protein 1 (PMAIP1) Rabbit anti-Human Polyclonal (BH3 Domain) Antibody

Add to an authentication report

RRID:AB\_2166698

[http://antibodyregistry.org/AB\\_2166698](http://antibodyregistry.org/AB_2166698)

Comments: vendor suggested use: ELISA

Host Organism: rabbit

Clonality polyclonal antibody

Target(s): PMAIP1, Phorbol-12-myristate-13-acetate-induced Protein 1 (PMAIP1) Rabbit anti Human Polyclonal (BH3 Dom)

PMAIP1

Contact help



# Table view and facets

Antibody metadata

Mentions = literature citations

Validation information

Issues = ratings and alerts

## Facets

- [Target Antigen >](#)
- [Target Organism >](#)
- [Vendor >](#)
- [Clonality >](#)
- [Host Organism >](#)
- [Mentions >](#)
- [Validation >](#)
- [Issues >](#)

[Perform Search](#)

## Recent searches

- Search for: 'PMAIP1' in data (AntibodyRegistry: Antibodies)
- Search for: '\*' in data (AntibodyRegistry: Antibodies)
- Search for: '\*' in data (SciCrunch: Registry)

118 Results - 20 per page

[+ Show More Columns](#) | [Download 1000 results](#)

Antibody Name	Proper Citation	Target Antigen	Target Organism	Clone ID	References	Comments
<input type="checkbox"/> <a href="#">Rabbit anti PMAIP1 Antibody (0.1mg)</a>	(Aviva Systems Biology Cat# OAMA03364, RRID:AB_10875157)  <a href="#">Resource Report</a> <a href="#">Resource Website</a>	Rabbit anti PMAIP1 (0.1mg), Rabbit anti-PMAIP1 Antibody (0.1mg) anti-Rabbit anti PMAIP1 (0.1mg)	human			manufacturer recommendations: WB
<input type="checkbox"/> <a href="#">anti-Phorbol-12-Myristate-13-Acetate-Induced Protein 1 (PMAIP1) antibody</a>	(Antibodies-Online Cat# ABIN223344, RRID:AB_10848936)  <a href="#">Resource Report</a> <a href="#">Resource Website</a>	anti-Phorbol-12-Myristate-13-Acetate-Induced Protein 1 (PMAIP1) antibody, anti Phorbol-12-Myristate-13-Acetate-Induced Protein 1 (PMAIP1) antibody anti-anti-Phorbol-12-Myristate-13-Acetate-In ...[more]	human			manufacturer recommendations: Western Blotting (WB); Western Blot
<input type="checkbox"/> <a href="#">anti-Phorbol-12-Myristate-13-Acetate-Induced Protein 1 (PMAIP1) (N-Term) antibody</a>	(Antibodies-Online Cat# ABIN214290, RRID:AB_10824053)  <a href="#">Resource Report</a> <a href="#">Resource Website</a>	anti-Phorbol-12-Myristate-13-Acetate-Induced Protein 1 (PMAIP1) (N-Term) antibody, anti Phorbol-12-Myristate-13-Acetate-Induced Protein 1 (PMAIP1) (N-Term) antibody anti-anti-Phorbol-12-Myris ...[more]	mouse, rat, human, mouse (murine), human, rat (rattus)			manufacturer recommendations: Western Blot; Immunohistochemistry; Western Blotting (WB).Immunohistochemistry (Paraffin-embedded Sections) (IHC (p))
<input type="checkbox"/> <a href="#">anti-PMA-Induced Protein 1 (Noxa) (PMAIP1) antibody</a>	(Antibodies-Online Cat# ABIN237968, RRID:AB_10787400)  <a href="#">Resource Report</a> <a href="#">Resource Website</a>	anti-PMA-Induced Protein 1 (Noxa) (PMAIP1) antibody, anti PMA-Induced Protein 1 (Noxa) (PMAIP1) antibody anti-anti-PMA-Induced Protein 1 (Noxa)	human			manufacturer recommendations: Western Blot; Western Blotting (WB)

[Contact help](#)



# Table

Antibody  
metadata

Mentions =  
literature citations

Validation  
information

Issues = ratings  
and alerts

Log in for Collection  
Options

# facets

## Facets

[Target Antigen](#) >

[Target Organism](#) >

[Vendor](#) >

[Clonality](#) >

[Host Organism](#) >

[Mentions](#) ▾

yes (2)

[Validation](#) ▾

information available (1)

[Issues](#) ▾

no known issues (104)

discontinued (14)

20 per page

+ Show More Columns | Download 1000 results

Proper Citation	Target Antigen	Target Organism	Clone ID	References	Comments
(Aviva Systems Biology Cat# OAMA03364, RRID:AB_10875157)	Rabbit anti PMAIP1 (0.1mg), Rabbit anti-PMAIP1 Antibody (0.1mg) anti-Rabbit anti PMAIP1 (0.1mg)	human			manufacturer recommendations: WB
(Antibodies-Online Cat# ABIN223344, RRID:AB_10848936)	anti-Phorbol-12-Myristate-13-Acetate-Induced Protein 1 (PMAIP1) antibody, anti Phorbol-12-Myristate-13-Acetate-Induced Protein 1 (PMAIP1) antibody anti-anti-Phorbol-12-Myristate-13-Acetate-In ...[more]	human			manufacturer recommendations: Western Blotting (WB); Western Blot
(Antibodies-Online Cat# ABIN214290, RRID:AB_10824053)	anti-Phorbol-12-Myristate-13-Acetate-Induced Protein 1 (PMAIP1) (N-Term) antibody, anti Phorbol-12-Myristate-13-Acetate-Induced Protein 1 (PMAIP1) (N-Term) antibody anti-anti-Phorbol-12-Myris ...[more]	mouse, rat, human, mouse (murine), human, rat (rattus)			manufacturer recommendations: Western Blot; Immunohistochemistry; Western Blotting (WB); Immunohistochemistry (Paraffin-embedded Sections) (IHC (p))
(Antibodies-Online Cat# ABIN237968, RRID:AB_10787400)	anti-PMA-Induced Protein 1 (Noxa) (PMAIP1) antibody, anti PMA-Induced Protein 1 (Noxa) (PMAIP1) antibody anti-anti-PMA-Induced Protein 1 (Noxa)	human			manufacturer recommendations: Western Blot; Western Blotting (WB)

>Contact help



# Are there any reported issues?

- dkNET aggregates alert information from multiple sources
- Building a database of issues identified from the literature = Resource Watch

Facets

- Target Antigen >
- Target Organism >
- Vendor >
- Clonality >
- Host Organism >
- Mentions >
- Validation >
- Issues >▼
  - no known issues (104)
  - discontinued (14)

Help us by registering it into the system — it's easy. Register it with the Antibody Registry (an Antibody Registry account is required. Create a free Antibody Registry account if you don't have one yet). An RRID will be generated in 1-2 business days.

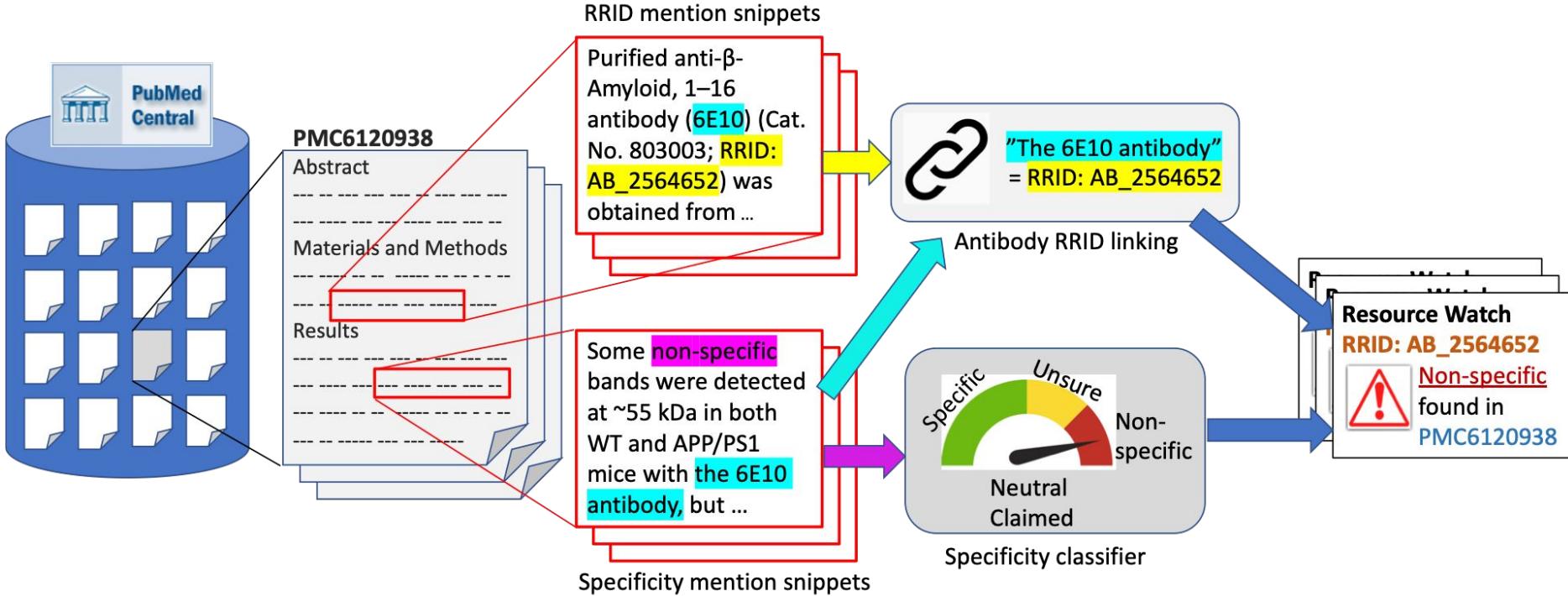
Click the  to add this resource to an Authentication Report or Collection

per page + Show More Columns | Download 1000 results

Proper Citation	Target Antigen	Target Organism	Clone ID	References	Comments
(LifeSpan Cat# LS-C98859, RRID:AB_2166698)	PMAIP1, Phorbol-12-myristate-13-acetate-induced Protein 1 (PMAIP1) Rabbit anti Human Polyclonal (BH3 Domain) Antibody anti-PMAIP1	human			vendor suggested use: ELISA
(Antibodies-Online Cat# ABIN223344, RRID:AB_10848936)	anti-Phorbol-12-Myristate-13-Acetate-Induced Protein 1 (PMAIP1) antibody, anti Phorbol-12-Myristate-13-Acetate-Induced Protein 1 (PMAIP1) antibody anti-anti-Phorbol-12-Myristate-13-Acetate-In ... [more]	human			manufacturer recommendations: Western Blotting (WB); Western Blot
(Antibodies-Online Cat# ABIN214290, RRID:AB_10848935)	anti-Phorbol-12-Myristate-13-Acetate-Induced Protein 1 (PMAIP1) antibody, anti Phorbol-12-Myristate-13-Acetate-Induced Protein 1 (PMAIP1) antibody anti-anti-Phorbol-12-Myristate-13-Acetate-In ... [more]	mouse, rat, human, mouse (murine), human, <small>antibodies</small>			manufacturer recommendations: Western Blot; Western Blot



# Resource Watch: Text mining issues in the literature



Drs. Chunnan Hsu and Chia-Hui Chang



# Validation information

- Antibody validation must be carried out in an application- and context-specific manner
- To validate an antibody, it must be shown to be specific, selective, and reproducible
- dkNET aggregates information from several projects that conduct careful, independent validation

Antibody Name [?](#)

**Anti-PMAIP1 polyclonal antibody** [🔗](#) [📄](#)

RRID:AB\_2681330 [📄](#)

[+ Add to an authentication report](#) [?](#)

[PDF REPORT](#) [HOW TO CITE](#)

Antibody Information [?](#)

URL: [http://antibodyregistry.org/AB\\_2681330](http://antibodyregistry.org/AB_2681330)

Description: This polyclonal antibody targets PMAIP1

Antibody Name: Anti-PMAIP1 polyclonal antibody

Proper Citation: (Atlas Antibodies Cat# HPA051063, RRID:AB\_2681330)

Target Antigen: PMAIP1, anti-PMAIP1

Target Organism: human

Comments: Originating manufacturer of this product. Applications: IHC, WB. Immunogen: Recombinant Protein Epitope Signature Tag (PrEST).

Clonality: polyclonal antibody

Host Organism: rabbit

Antibody ID: AB\_2681 ...[\[more\]](#)

Ratings and Alerts [?](#)

- Validation data available at HPA - Atlas Antibody Company  
<https://atlasantibodies.com/products/PMAIP1-antibody-HPA051063>

No alerts have been found for Anti-PMAIP1 polyclonal antibody.

[Contact h](#)



# Validation information from HPA

- All antibodies used in the Human Protein Atlas are carefully validated
- Antibodies are available through Atlas antibodies

THE HUMAN PROTEIN ATLAS

MENU HELP NEWS

## PMAIP1

SUMMARY TISSUE CELL PATHOLOGY RNA BRAIN RNA BLOOD

TISSUE ATLAS PRIMARY DATA<sup>1</sup>  
Antibodies in assay<sup>1</sup> HPA051063

Tissue presentation order Organ Cell type Alphabetical

Antibody staining<sup>1</sup>

Antibody HPA051063

**ANTIBODY INFORMATION**

Provider	Atlas Antibodies Sigma-Aldrich
Product name	HPA051063
Host species	Rabbit
Clonality <sup>1</sup>	pAb
Purity	Affinity purified using the PrEST-antigen as affinity ligand
Released in version <sup>1</sup>	11
Proper citation	Atlas Antibodies Cat#HPA051063, RRID:AB_2681330

Validation summary<sup>1</sup>

**IMMUNOCYTOCHEMISTRY<sup>1</sup>**

ICC IHC WB PA

Uncertain<sup>1</sup>



# Who else has used this antibody?

- Antibody registry provides 2 types of citation:
- RRID mentions in the literature
- Supplier information

Facets

- Target Antigen >
- Target Organism >
- Vendor >
- Clonality >
- Host Organism >
- Mentions >
- Validation >
- Issues >

Perform Search

Recent searches

- Search for: 'PMAIP1' in data (AntibodyRegistry: Antibodies)
- Search for: '''' in data (AntibodyRegistry: Antibodies)
- Search for: '''' in data (SciCrunch: Registry)

118 Results - 20 per page							+ Show More Columns   Download 1000 results
Antibody Name	Proper Citation	Target Antigen	Target Organism	Clone ID	References	Comments	
<input type="checkbox"/> Rabbit anti-PMAIP1 Antibody (0.1mg)	(Aviva Systems Biology Cat# OAMA03364, RRID:AB_10875157)  <a href="#">Resource Report</a> <a href="#">Resource Website</a>	Rabbit anti PMAIP1 (0.1mg), Rabbit anti-PMAIP1 Antibody (0.1mg) anti-Rabbit anti PMAIP1 (0.1mg)	human			manufacturer recommendations: WB	
<input type="checkbox"/> anti-Phorbol-12-Myristate-13-Acetate-Induced Protein 1 (PMAIP1) antibody	(Antibodies-Online Cat# ABIN223344, RRID:AB_10848936)  <a href="#">Resource Report</a> <a href="#">Resource Website</a>	anti-Phorbol-12-Myristate-13-Acetate-Induced Protein 1 (PMAIP1) antibody, anti Phorbol-12-Myristate-13-Acetate-Induced Protein 1 (PMAIP1) antibody anti-anti-Phorbol-12-Myristate-13-Acetate-Induced Protein 1 (PMAIP1) antibody ...[more]	human			manufacturer recommendations: Western Blotting (WB); Western Blot	
<input type="checkbox"/> anti-Phorbol-12-Myristate-13-Acetate-Induced Protein 1 (PMAIP1) (N-Term) antibody	(Antibodies-Online Cat# ABIN214290, RRID:AB_10824053)  <a href="#">Resource Report</a> <a href="#">Resource Website</a>	anti-Phorbol-12-Myristate-13-Acetate-Induced Protein 1 (PMAIP1) (N-Term) antibody, anti Phorbol-12-Myristate-13-Acetate-Induced Protein 1 (PMAIP1) (N-Term) antibody anti-anti-Phorbol-12-Myristate-13-Acetate-Induced Protein 1 (PMAIP1) (N-Term) antibody ...[more]	mouse, rat, human, mouse (murine), human, rat (rattus)			manufacturer recommendations: Western Blot; Immunohistochemistry; Western Blotting (WB); Immunohistochemistry (Paraffin-embedded Sections) (IHC (p))	
<input type="checkbox"/> anti-PMA-Induced Protein 1 (Noxa) (PMAIP1) antibody	(Antibodies-Online Cat# ABIN237968, RRID:AB_10787400)  <a href="#">Resource Report</a> <a href="#">Resource Website</a>	anti-PMA-Induced Protein 1 (Noxa) (PMAIP1) antibody, anti PMA-Induced Protein 1 (Noxa) (PMAIP1) antibody anti-anti-PMA-Induced Protein 1 (Noxa) ...[more]	human			manufacturer recommendations: Western Blot; Western Blotting (WB)	

>Contact help



# Who else has used this antibody?

- Antibody registry provides 2 types of citation:
- RRID mentions in the literature
- Supplier information

Facets

20 per page [+ Show More Columns](#) | [Download 1000 results](#)

Proper Citation	Target Antigen	Target Organism	Clone ID	References	Comments
(Aviva Systems Biology Cat# OAMA03364, RRID:AB_10875157)	Rabbit anti PMAIP1 (0.1mg), Rabbit anti-PMAIP1 Antibody (0.1mg) anti-Rabbit anti PMAIP1 (0.1mg)	human			manufacturer recommendations: WB
(Antibodies-Online Cat# ABIN223344, RRID:AB_10848936)	anti-Phorbol-12-Myristate-13-Acetate-Induced Protein 1 (PMAIP1) antibody, anti Phorbol-12-Myristate-13-Acetate-Induced Protein 1 (PMAIP1) antibody anti-anti-Phorbol-12-Myristate-13-Acetate-Induced Protein 1 (PMAIP1) (N-Term) antibody, anti Phorbol-12-Myristate-13-Acetate-Induced Protein 1 (PMAIP1) (N-Term) antibody anti-anti-Phorbol-12-Myristate-13-Acetate-Induced Protein 1 (PMAIP1) (N-Term) antibody ...[more]	human			manufacturer recommendations: Western Blotting (WB); Western Blot
(Antibodies-Online Cat# ABIN214290, RRID:AB_10824053)	anti-Phorbol-12-Myristate-13-Acetate-Induced Protein 1 (PMAIP1) (N-Term) antibody, anti Phorbol-12-Myristate-13-Acetate-Induced Protein 1 (PMAIP1) (N-Term) antibody anti-anti-Phorbol-12-Myristate-13-Acetate-Induced Protein 1 (PMAIP1) (N-Term) antibody ...[more]	mouse, rat, human, mouse (murine), human, rat (rattus)			manufacturer recommendations: Western Blot; Immunohistochemistry; Western Blotting (WB); Immunohistochemistry (Paraffin-embedded Sections) (IHC (p))
(Antibodies-Online Cat# ABIN237968, RRID:AB_10787400)	anti-PMA-Induced Protein 1 (Noxa) (PMAIP1) antibody, anti PMA-Induced Protein 1 (Noxa) (PMAIP1) antibody anti-anti-PMA-Induced Protein 1 (Noxa) (PMAIP1) antibody ...[more]	human			manufacturer recommendations: Western Blot; Western Blotting (WB)

**Mentions**

yes (2)

**Validation**

**Issues**

(SciCrunch Registry) [Resource Website](#)



# Who else has used this antibody?

2 Results - 20 per page

+ Show More Columns | Download 1000 results

Antibody Name	Proper Citation	Target Antigen	Target Organism	Clone ID	References	Comments
<input type="checkbox"/> NOXA (114C307) antibody  <a href="#">Resource Report</a> <a href="#">Resource Website</a> 1+ mentions	(Santa Cruz Biotechnology Cat# sc-56169, RRID:AB_784877)	Human PMAIP1, anti-Human PMAIP1	human	114C307	<a href="#">PMID:25392500</a> <a href="#">PMID:29894692</a> <a href="#">PMID:31543463</a>	validation status unknown check with seller; recommendations: Immunoprecipitation; Western Blot; Western Blotting, Immunoprecipitation
<input type="checkbox"/> Anti-Noxa Mouse mAb (114C307) antibody  <a href="#">Resource Report</a> <a href="#">Resource Website</a> 1+ mentions	(Millipore Cat# OP180, RRID:AB_2268468)	PMAIP1, anti-PMAIP1	human		<a href="#">PMID:29932898</a> <a href="#">PMID:31455158</a> <a href="#">PMID:31940492</a>	seller recommendations: western blot



# Mentions and Co-mentions

Antibody Name

**NOXA (114C307) antibody**

RRID:AB\_784877

Add to an authentication report

Antibody Information

URL: [http://antibodyregistry.org/AB\\_784877](http://antibodyregistry.org/AB_784877)

Description: This monoclonal antibody targets Human PMAIP1

Antibody Name: NOXA (114C307) antibody

Proper Citation: (Santa Cruz Biotechnology Cat# sc-56169, RRID:AB\_784877)

Target Antigen: Human PMAIP1, anti-Human PMAIP1

Target Organism: human

Clone ID: 114C307

References: PMID:25392500, PMID:29894692, PMID:31543463

Comments: validation status unknown check with seller; recommendations: Immunopr

Usage and Citation Metrics

We found 3 mentions in open access literature.

[View full usage report](#)

Most recent articles:

Guiléz R, et al. (2019) Mitochondrial Reprogramming Underlies Resistance to BCL-2 Inhibition in Lymphoid Malignancies. *Cancer cell*, 36(4), 369-384.e13. ([PMID:31543463](#))

Dhar D, et al. (2018) Liver Cancer Initiation Requires p53 Inhibition by CD44-Enhanced Growth Factor Signaling. *Cancer cell*, 33(6), 1061-1077.e6. ([PMID:29894692](#))

Chen Y, et al. (2014) Regulation of neuronal gene expression and survival by basal NMDA receptor activity: a role for histone deacetylase 4. *The Journal of neuroscience : the official journal of the Society for Neuroscience*, 34(46), 15327-39. ([PMID:25392500](#))

\*NOTICE: Multiple vendors found, please select your vendor: Santa Cruz Biotech

**NOXA (114C307) antibody**

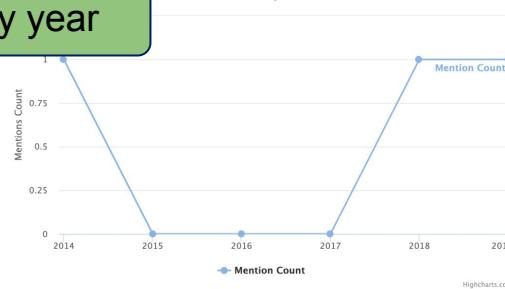
RRID:AB\_784877

Add to an authentication report

[DOWNLOAD MENTIONS](#)

Usage

Articles by Year



About this Report

The report results are from Research Resource Identifier (RRID) - based text mining of the literature of PubMed Central (PMC) Open Access Subset (OA Subset).

For tools, we also include additional results from searching for resource name and URL in the PMC OA Subset. See Ozyurt, et. al., PMID:26730820

Check [Google Scholar](#) for all

## Co-Mentions

Other research resources frequently mentioned with this resource

\*Please note that when co-mention number is small, resources listed here do not mean that they are frequently used together. We are also aware that commercial organizations are in the list and we are currently working on improving this service by removing these organizations.

- Bax Antibody
- AMPK alpha (D5A2) Rabbit mAb antibody
- Anti-Bim Antibody, Unconjugated
- BID Antibody (Mouse Specific)
- PKA beta (catalytic subunit) antibody

Find mentions based on location



City

State/Region/Province

Search

[Search using your location](#)

Contact help



# Collaborator network (very beta)

- Find colleagues near you who might have experience with this antibody

Antibody Name [?](#)

**NOXA (114C307) antibody** [🔗](#) [📄](#)

RRID:AB\_784877 [📄](#)

[+ Add to an authentication report](#) [?](#)

[PDF REPORT](#)

---

Antibody Information [?](#)

URL: [http://antibodyregistry.org/AB\\_784877](http://antibodyregistry.org/AB_784877)

Description: This monoclonal antibody targets Human PMAIP1

Antibody Name: NOXA (114C307) antibody

Proper Citation: (Santa Cruz Biotechnology Cat# sc-56169, RRID:AB\_784877)

Target Antigen: Human PMAIP1, anti-Human PMAIP1

Target Organism: human

Clone ID: 114C307

References: [PMID:25392500](#), [PMID:29894692](#), [PMID:31543463](#)

Comments: validation status unknown check with seller; recommendations: Immunoprecipitation, Western Blot; Western Blotting ...[\[more\]](#)

---

Usage and Citation Metrics [?](#)

We found 3 mentions in open access literature.

[View full usage report](#)

Most recent articles:

Guèze R, et al. (2019) Mitochondrial Reprogramming Underlies Resistance to BCL-2 Inhibition in Lymphoid Malignancies. *Cancer cell*, 36(4), 369-384.e13. ([PMID:31543463](#))

Dhar D, et al. (2018) Liver Cancer Initiation Requires p53 Inhibition by CD44-Enhanced Growth Factor Signaling. *Cancer cell*, 33(6), 1061-1077.e6. ([PMID:29894692](#))

Chen Y, et al. (2014) Regulation of neuronal gene expression and survival by basal NMDA receptor activity: a role for histone deacetylase 4. *The Journal of neuroscience : the official journal of the Society for Neuroscience*, 34(46), 15327-39. ([PMID:25392500](#))

\*NOTICE: Multiple vendors found, please select your vendor: [Santa Cruz Biotech](#)

Collaborator Network [?](#)

A list of researchers who have used the resource and an author search tool

Find mentions based on location 

City

State/Region/Province

[Search](#)

[Q Search using your location](#)



# Can I borrow some antibody?



## Collaborator Network ?

A list of researchers who have used the resource and an author search tool

Find mentions based on location



City

State/Region/Province

Q Search using your location



Enter a city or state or search using your location



## All Mentions (1 mentions) [Download Mentions] ?

x Near you

First Previous **1** Next Last

Page 1 of 1 (1 ~ 1 of 1)

- Dhar D, et al. (2018) Liver Cancer Initiation Requires p53 Inhibition by CD44-Enhanced Growth Factor Signaling. *Cancer cell*,
  - Debanjan Dhar - San Diego, California, United States of America
  - Laura Antonucci - San Diego, California, United States of America
  - Ju Youn Kim - San Diego, California, United States of America
  - Shabnam Shalapour - San Diego, California, United States of America
  - Ling Yang - San Diego, California, United States of America
  - Mark A Valasek - San Diego, California, United States of America
  - Michael Karin - San Diego, California, United States of America

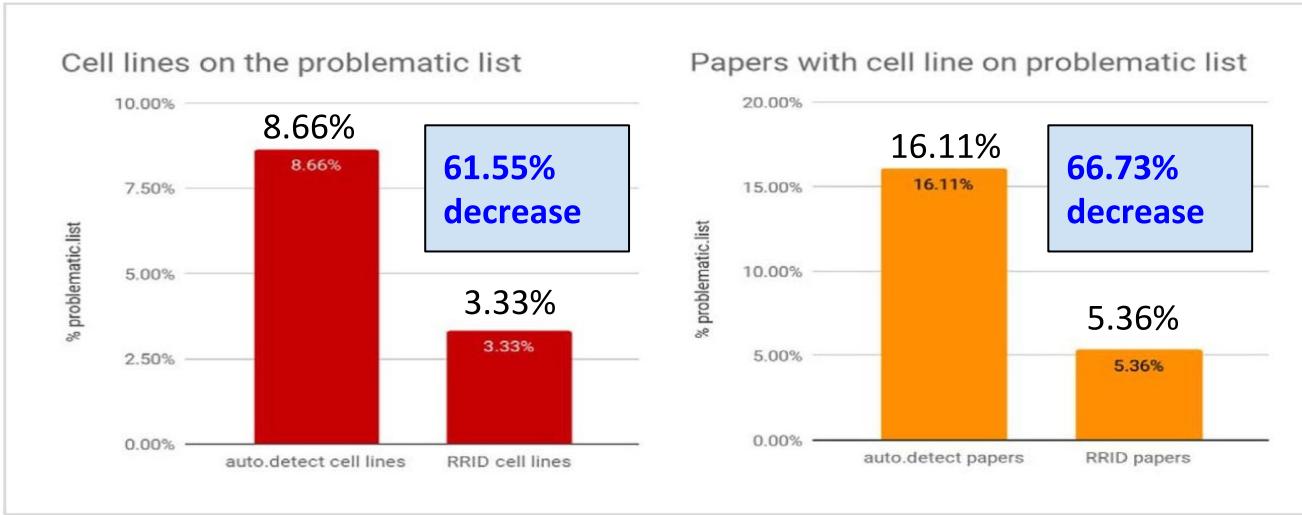


# Know before you go...

Measuring the impact of RRIDs and the RIN



# Use of RRIDs associated with a lower reported use of problematic cell lines



## Percentages of papers with cell lines found on the problematic list.

The "auto.detect.cell" lines data come from the edit distance metric, same as Figure 2; n=305,161; the RRID cell lines are based on 1,502 cell lines. The "auto.detect" papers percentage is based on n=150,459 unique papers, where the problematic cell-line list is detected based on the edit distance metric. The RRID papers percentage is based on n=634 papers.

Babic Z, et al. eLIFE 2019; 8:e41676 DOI: 10.7554/eLife.41676

# The Resource Information Network is inserted into the Publication Process



- RRIDs stand between authors and publications
- Authors encounter information when they obtain RRID through dkNET or the Resource Identification Portal, which are issued by over 25 distinct authorities for different types of resources
- Powered by dkNET





# Authentication Reports

1. Alert researchers of any issues with cell lines and antibodies *before* the study is performed
2. Compliance with the NIH requirements for grant applications



- dkNET has created a tool to help comply with funder mandates and best practices for authenticating key biological resources

The screenshot shows the dkNET homepage with a dark blue header and an orange navigation bar. The header includes the dkNET logo, a search icon, and links for ABOUT, RESOURCE REPORTS, DISCOVERY PORTAL, AUTHENTICATION REPORT, and HYPOTHESIS CENTER. The main title "dkNET: Connecting Researchers to Resources" is displayed prominently. Below the title are four main sections: "Resource Reports" (with a sub-section on Research Resource Identifiers (RRIDs)), "Discovery Portal" (with a search bar and links to Funding, Images, Phenotypes, Literature, etc.), "Authentication Reports & FAIR Data" (with a sub-section on NIH policies and authentication reports), and "Hypothesis Center" (with a sub-section on analyzing diverse 'omics data). A large blue rounded rectangle highlights the "Authentication Reports & FAIR Data" section. At the bottom, there are three cards: "dkNET Webinar" (Type 2 Diabetes Knowledge Portal, Friday, February 28, 2020, 11am-12pm PT), "Funding" (dkNET New Investigator Pilot Program in Bioinformatics, Application Due Date: February 14, 2020), and "NOW ACCEPTING APPLICATIONS" (2020 dkNET Summer of Data Student Internship, Application Deadline: April 17, 2020). A "Contact help desk" link is also present.



# NIH Rigor & Reproducibility Guidelines

When preparing a grant proposal for the US National Institutes of Health, researchers must provide a plan for authenticating key research resources

**NIH ENHANCING REPRODUCIBILITY GUIDELINES**  
what you need to know

## WHAT ARE THE FOUR ELEMENTS OF RIGOR?

- 1 RIGOR OF THE PRIOR RESEARCH
- 2 RIGOR OF THE PROPOSED RESEARCH
- 3 BIOLOGICAL VARIABLES
- 4 AUTHENTICATION

Send inquiries to [reproducibility@nih.gov](mailto:reproducibility@nih.gov)

See also NIH Notice NOT-OD-18-228  
<https://grants.nih.gov/grants/nihoadmin/notices/NOT-OD-18-228.htm>

## WHERE IN THE APPLICATION?

### 1 RESEARCH STRATEGY

The research strategy is where you discuss the significance, innovation, and approach of your research plan. Let's look at an R01, for example:

The research strategy guidelines require that you:

- Describe the strengths and weaknesses in the rigor of the prior research that serves as key support.
- Describe plans to address weaknesses in the rigor of the prior research.
- Describe how your experimental design and methods will achieve robust and unbiased results.
- Explain how relevant biological variables, such as sex, are factored into research designs and analyses.

### 2 ATTACHMENT FOR AUTHENTICATION OF KEY BIOLOGICAL AND/OR CHEMICAL RESOURCES

You must briefly describe methods to ensure the identity and validity of key biological and/or chemical resources used in the proposed studies.

These include, but are not limited to:

CELL LINES ↔ SPECIALTY CHEMICALS  
ANTIBODIES ↔ OTHER BIOLOGICS

Standard laboratory reagents that are not expected to vary do not need to be included in the plan. Examples are buffers and other common biologicals or chemicals.

**DO NOT** put experimental methods or preliminary data in this section  
 **DO** focus on authentication and validation of key resources

### 3 REVIEW GUIDELINES

Here are the additional criteria the reviewers will be asked to use:

- Is the prior research that serves as the key support for the proposed project rigorous?
- Have the investigators included plans to address weaknesses in the rigor of prior research that serves as the key support for the proposed project?
- Have the investigators presented strategies to ensure a robust and unbiased approach, as appropriate for the work proposed?
- Have the investigators presented adequate plans to address relevant biological variables, such as sex, for studies in vertebrate animals or human subjects?

Reviewers will also be asked to comment on that new attachment (see Update 2)!



# Custom Authentication Reports

- Select cell lines and antibodies you are planning to use
- dkNET creates a custom report
- Displays alerts and recommendations for authentication of cell lines and antibodies

Date: 23 Jun 2020

## Authentication of Key Biological Resources

### Table of Content

- I. Cell Lines
- II. Antibodies
- III. Resource Index

### I. Cell Lines

The authentication plan for the cell lines is based on the International Cell Line Authentication Committee (ICLAC)'s "Cell Line Checklist for Manufacturing and Clinical Applications" (1).

#### A. Identification of Cell Lines

The following cell lines will be used in the proposed studies:

Name	RRID	Vendor	Catalog number	Species	Sex	Alerts
 CNDT2	 RRID:CVCL_L293			Human	Female	 • Problematic cell line
HAP1 PMAIP1 (-) 1	 RRID:CVCL_TE72			Homo sapiens	Male	



Source: Cellosaurus (<https://web.expasy.org/cellosaurus/>)

To verify that this is not a false cell line, misidentified, or to check this is known to be an authentic stock, check table above to see if there are any alerts, such as problematic cell lines or discontinued cell lines. dkNET obtains this information from Cellosaurus(3). Click resource name to access additional information from Cellosaurus.

#### B. Authentication Plan



# Antibody report

- Walks through common application errors

## II. Antibodies

This authentication plan for antibodies is based on the methods suggested in "A proposal for validation of antibodies" (Uhlen M et. al., 2016)(1), the guideline published in the Journal of Comparative Neurology (Saper C, 2005)(2), and the Example Authentication of Key Biological and/or Chemical Resources (Bandrowski A)(3).

### A. Identification of Antibodies

The following antibodies will be used in the proposed studies:

Name	RRID	Vendor	Catalog Number	Target Organism	Comments	Alerts
Anti-SSRP1 polyclonal antibody	RRID:AB_1857509	Atlas Antibodies	HPA002697	human	Originating manufacturer of this product. Applications: IHC, WB. Immunogen: Recombinant Protein Epitope Signature Tag (PrEST).	
NOXA (114C307) antibody	RRID:AB_784877	Santa Cruz Biotechnology	sc-56169	human	validation status unknown check with seller; recommendations: Immunoprecipitation; Western Blot; Western Blotting, Immunoprecipitation	

Source: Antibody Registry (<http://antibodyregistry.org/>)

Check table above to see if there are any warning signs, such as discontinued antibodies, to determine whether there are any known issue. dkNET obtains this information from the Antibody Registry(5). Click resource name to access additional information from the Antibody Registry.

### B. Validation

a. Antibody validation must be carried out in an application- and context-specific manner (Uhlen et al., 2016), i.e., just because you used an antibody successfully in one application, doesn't mean it will translate. To validate an antibody, it must be shown to be specific, selective, and reproducible in the context for which it is to be used (Bordeaux et al., 2014). See b. Suggested validation methods. When selecting an antibody to use, pay special attention to the following:

- ✓ i. **Check Target Organism** - Check to see if the antibody has been developed for and tested in the target species for your experiment in the Target Organism field.
- ✓ ii. **Check Application** - Check if your planned applications included in the recommended applications provided by the vendor listed in the Comments field. We do not recommend using an antibody that has not been tested for a specific application.
- ✓ iii. **Check Validation Information** - Check validation information to see if it is a widely used reagent or if any concerns have been raised.



# Help with validation methods

## b. Suggested validation methods based on applications(1)

Validation strategy	Genetic	Orthogonal	Independent antibody	Tagged protein expression	IMS
Validation principle	The expression of the target protein is eliminated or significantly reduced by genome editing or RNA interference	Expression of the target protein is compared with an antibody-independent method	Expression of the target protein is compared using two antibodies with nonoverlapping epitopes	The target protein is expressed using a tag, preferably expressed at endogenous levels	The target protein is captured using an antibody and analyzed using MS
Validation criteria	Elimination or significant reduction in antibody labeling after gene disruption or mRNA knockdown	Significant correlation of protein levels detected by an antibody and an orthogonal method (e.g., MS)	Significant correlation of protein levels detected by two different antibodies recognizing independent regions of the same target protein	Significant correlation between antibody labeling and detection of the epitope tag	Target protein peptides among the most abundant detected by MS following immunocapture
Suitable for these applications	WB, IHC, ICC, FS, SA, IP/ChIP, RP	WB, IHC, ICC, FS, SA, RP	WB, IHC, ICC, FS, SA, IP/ChIP, RP	WB, IHC, ICC, FS	IP/ChIP

Search dkNET for knockout organism

WB, western blot; IHC, immunohistochemistry; ICC, immunocytochemistry, including immunofluorescence microscopy; FS, flow sorting and analysis of cells; SA, sandwich assays, including ELISA; IP, immunoprecipitation; ChIP, chromatin immunoprecipitation; and RP, reverse-phase protein arrays.



# Summary

- dkNET has assembled a unique index, the Resource Information Network, that aggregates information about research resources and how they perform
- Resource Reports and Authentication Plans utilize the RIN to make this information available to researchers to help choose the right reagents and support reproducibility
- Coming soon:
  - Resource Watch-expanded database of reported issues with research resources
  - Expanded services for Authentication Plans



# The dkNET team

UCSD

- **Jeffrey Grethe**, Co-PI
- **Ko-Wei Lin**, Project manager
- **Chunnan Hsu**, Resource Watch
- **Vicky Guo**, developer
- **Burak Ozyurt**, NLP
- **Stephanie Hagstrom**, Outreach
- **Ron Margolis**, Visiting Scholar

Baylor College of Medicine

- **Neil McKenna**, Baylor, SPP
- **Scott Oschner**, biocurator

