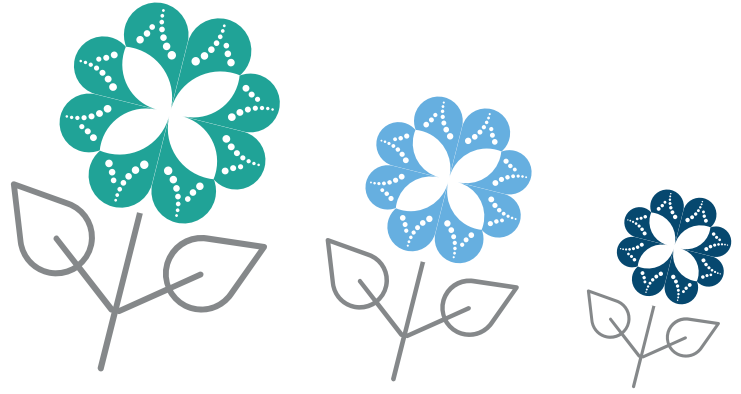


Antibodies for Plant Research



 Cited Reactivity

 Highly validated

 Next day shipping

Your success is our success! We are celebrating the accomplishments of the plant research community by highlighting some publications that cited Proteintech products in plant models.

Publication Spotlight

Cycas acquired cytotoxin via horizontal gene transfer

A paper in *Nature Plants* by Liu et al. analyzed the *Cycas* genome in the context of the early evolution of seed plants. The team identified a cytotoxin in multiple *Cycas* species that appears to have been acquired through horizontal gene transfer from a microbial organism. This cytotoxic protein is similar to the bacterial fit and mcf toxins. Our HRP-conjugated His-Tag monoclonal antibody (HRP-66005) was used to identify the purified cytotoxin from *Cycas*. This purified protein was then injected into two species of insect larvae to demonstrate its insecticidal efficacy.

Liu, Y., Wang, S., Li, L. et al. *The Cycas genome and the early evolution of seed plants.* (2022) *Nat. Plants* 8, 389–401. <https://doi.org/10.1038/s41477-022-01129-7>

Antibody tools for protein tags

Fluorescent protein tags	Peptide tags	Solubilization tags
GFP	HA	MBP
TurboGFP	DYKDDDDK	GST
mNeonGreen	Spot	
mCherry	His	
RFP	V5	
Halo	Myc	
SNAP/CLIP-tag	S1	
	T7	





Primary Antibodies for plant research

Catalog No.	Product Name	Citations
10993-1-AP	Cytochrome c Polyclonal antibody	327
15282-1-AP	HSP60 Polyclonal antibody	71
10822-1-AP	IVD Polyclonal antibody	5
67293-1-Ig	Luciferase Monoclonal antibody (2D2E1)	1
12395-1-AP	MAT1A Polyclonal antibody	
66289-1-Ig	Pan Acetylation Monoclonal antibody (1D5F2)	14
10946-1-AP	PEX3 Polyclonal antibody	5
14816-1-AP	PEX16 Polyclonal antibody	13
14713-1-AP	PEX19 Polyclonal antibody	4
12295-1-AP	Prohibitin 2 Polyclonal antibody	22
11302-1-AP	Ribosomal protein L4 Polyclonal antibody	27
16683-1-AP	RPS14 Polyclonal antibody	5
10201-2-AP	Ubiquitin Polyclonal antibody	171



Scan for more information about
primary antibodies

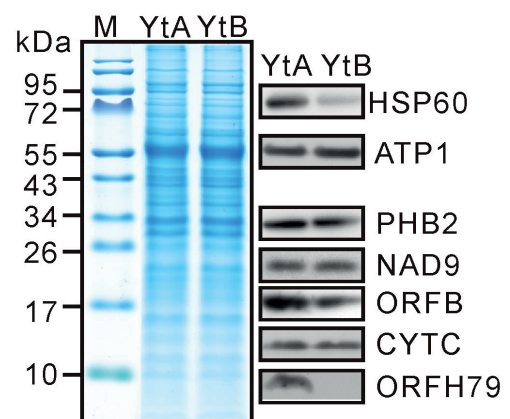
Publication Spotlight

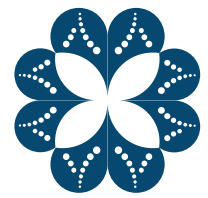
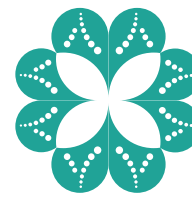
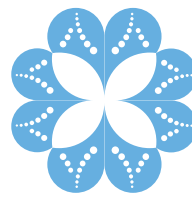
How might mitochondrial defects lead to cytoplasmic male sterility in rice?

Liu et al. isolated mitochondrial complexes from sterile and fertile rice lines and compared protein concentrations between them. Proteintech's prohibitin 2 polyclonal antibody (12295-1-AP), HSP60 polyclonal antibody (15282-1-AP), and cytochrome c polyclonal antibody (10993-1-AP) were used to determine that the sterile rice line had reduced functional mitochondrial protein complexes.

Comparison of YtA (sterile) and YtB (fertile) line mitochondrial proteins by western blot shows the differences in mitochondrial complexes between the two strains. Equal amounts of mitochondrial proteins from YtA and YtB were run on tricine-SDS-PAGE and stained with Coomassie Blue G250. Proteintech antibodies were used to detect HSP60, PHB2, and CYTC.

Liu, G., Tian, H., Huang, YQ. et al. Alterations of Mitochondrial Protein Assembly and Jasmonic Acid Biosynthesis Pathway in Honglian (HL)-type Cytoplasmic Male Sterility Rice. (2012) J Biol Chem. 287(47): 40051–40060 <https://doi.org/10.1074/jbc.M112.382549>





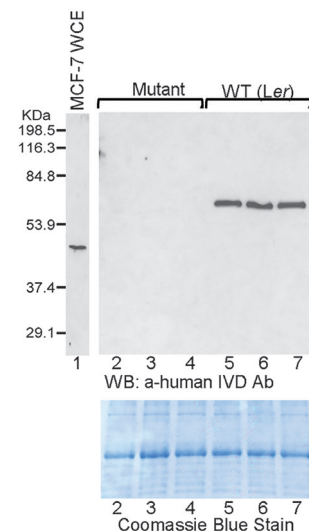
Publication Spotlight

A mutated catabolic enzyme increases soluble amino acids concentration in *Arabidopsis*

A team of researchers from Michigan State University identified a mutation that caused *Arabidopsis* to accumulate higher concentrations of 12 metabolically diverse soluble amino acids. By profiling the changed metabolome of the mutant strain, the team deduced that the catabolic enzyme isovaleryl-CoA dehydrogenase (IVD) was responsible for the changes in amino acid concentration. Proteintech's human IVD antibody (10822-1-AP) was used to show that the IVD protein was present in the wild type *Arabidopsis* and not in the mutant strain. *Arabidopsis* IVD has a long region that is 73% identical with human IVD.

Immunoblot analysis of the isovaleryl-CoA dehydrogenase with Proteintech's anti-human IVD polyclonal antibody shows the absence of IVD protein in the mutant *Arabidopsis thaliana* strain. The positions of molecular weight markers are indicated on the left. Lane 1 is a positive control using human MCF-7 whole cell extract.

Gu, L., Jones, DA., and Last, RL. Broad connections in the *Arabidopsis* seed metabolic network revealed by metabolite profiling of an amino acid catabolism mutant. (2010) *The Plant Journal* 61, 579-590. <https://doi.org/10.1111/j.1365-313X.2009.04083.x>






Loading Controls for plant research

- ✓ Alpha Tubulin >1200 citations
- ✓ Alpha Actin >50 citations
- ✓ ATPB >30 citations
- ✓ Beta Tubulin >600 citations
- ✓ Beta Actin >7000 citations
- ✓ Histone-H3 >400 citations
- ✓ GAPDH >9300 citations
- ✓ VDAC1 >160 citations



Secondary Antibodies for plant research



-  High quality ensuring lot-to-lot consistency
-  High specificity and sensitivity
-  Highly cited in more than 8,500 publications

Species Reactivities

- Anti-mouse
- Anti-rabbit
- Anti-goat
- Anti-rat
- Anti-human
- Anti-chicken
- Anti-guinea pig
- Anti-horse
- Anti-sheep
- Anti-swine

Conjugates

- Alexa Fluor® 488
- Alexa Fluor® 568
- Alexa Fluor® 647
- AMCA
- AP
- Biotin
- CoraLite® 488
- CoraLite® 594
- Cy3
- FITC
- HRP
- R-PE
- TRITC

Applications

- Western Blot
- Immunofluorescence
- Immunohistochemistry
- ELISA
- Flow Cytometry

Publication Spotlight

En garde! Extracellular ATP signals plants to raise their defenses via stress hormone pathway

When plants are wounded, stress hormones like jasmonates (JA), salicylates, and ethylene activate a defense response against pathogens and herbivores. In a paper published in *Plant Physiology*, Tripathi et al. describe how ATP released by damaged cells increases degradation of JAZ1, a repressor of JA signaling, to help maximize plant defense responses.

Western blot analysis with Proteintech's anti-HA antibody and HRP-conjugated secondary antibody shows that ATP treatment reduced the stability of JAZ1 in the absence of proteasome inhibitor MG132.

Tripathi D., Zhang T., Koo A. J., Stacey G., and Tanaka K. Extracellular ATP Acts on Jasmonate Signaling to Reinforce Plant Defense. (2018) *Plant Physiology*, 176(1): 511–523, <https://doi.org/10.1104/pp.17.01477>

