

Product Specification Sheet

Jasmonic acid-amido synthetase (JAR1) Antibody

- Cat# JAR11-A
- Cat# JAR11-P

Rabbit anti-Arabidopsis Thaliana JAR1 pAb, affinity purified
Control/Blocking Peptide for JAR1 chain antibody

SIZE: 100 ug
SIZE: 500 ug

Catalyzes the synthesis of jasmonates-amino acid conjugates by adenylation; can use Ile and, in vitro at least, Val, Leu and Phe as conjugating amino acids on jasmonic acid (JA) and 9,10-dihydro-JA substrates, and to a lower extent, on 3-oxo-2-(2Z-pentenyl)-cyclopentane-1-butyric acid (OPC-4) and 12-hydroxy-JA (12-OH-JA). Can synthesize adenosine 5-tetraphosphate in vitro. Required for the JA-mediated signaling pathway that regulates many developmental and defense mechanisms, including growth root inhibition, vegetative storage proteins (VSPs) accumulation, induced systemic resistance (ISR), response to wounding and herbivores, tolerance to ozone O₃ (probably having a role in lesion containment). Plays an important role in the accumulation of JA-Ile in response to wounding, both locally and systemically; promotes JA responding genes especially in distal part of wounded plants, via the JA-Ile-stimulated degradation of JAZ repressor proteins by the SCF(COI)E3 ubiquitin-protein ligase pathway.

Involved in the apoptosis-like programmed cell death (PCD) induced by fungal toxin fumonisin B1-mediated (FB1). Required for volatile compounds (C6-aldehydes and allo-ocimene)-mediated defense activation. Involved in the non-pathogenic rhizobacterium-mediated ISR (defense priming) by *P.fluorescens* (strains CHAO_r and WCS417_r) and *P.putida* LSW17S against infection leaf pathogens such as *P.syringae* pv. tomato and *H.parasitica*. Required for the JA-dependent resistance to fungi such as *P.irregularis*, *U.vignae* and *U.appendiculatus*. Necessary to induce systemic resistance against *R.solanacearum* and *P.syringae* pv. tomato with *P.oligandrum* (a non-pathogenic biocontrol agent) cell wall protein fraction (CWP). Mediates PGIP2 accumulation in response to *B.cinerea* infection and thus contributes to resistance against this pathogen. Modulates the UV-B alteration of leaves attractiveness to diamondback moths *P.xylostella* leading to insect oviposition. Involved in the regulation of far-red light influence on development. Seems necessary for the salicylic acid (SA)-mediated, NPR1-independent resistance pathway. May contribute to the chitin-elicited pathway. Contributes to the sensitivity toward *F.graminearum*.

Source of Antigen or Antibodies

Uniprot: Q9SKE2

Host: Rabbit

Form: Polyclonal, affinity purified over a peptide column

Immunogen: 19 amino acid synthetic peptide derived from Arabidopsis Thaliana tubulin JAR1 terminal conjugated to KLH

Species Reactivity: Arabidopsis Thaliana

Cross reactivity: 100% homology with Brassica napus, Raphanus sativus, Camelina sativa, Eutrema salsugineum, Arabidopsis lyrata, and Rhinolophis sinicus. 89% Capsella rubella,

Recommended Secondary Antibody: Goat anti-Rabbit IgG-HRP

Negative Control: Non-immune Rabbit IgG (**ADI cat# 20009-1**). Blocking peptide (**ADI cat# JAR11-P**), use 5-10 ug of control peptide per 1 ug of affinity pure antibody or 1 ul antiserum to confirm specificity.

Form & Storage of Antibodies/Peptide Control

Affinity pure IgG

_____ ul solution; Concentration: _____
Supplied in PBS+0.1% sodium azide

lyophilized powder

Reconstitute powder in 200 ul PBS to 0.5 mg/ml

Control/blocking peptide

500 ug/500 ul solution lyophilized powder

Reconstitute powder in PBS at 1 mg/ml.

Storage:

Short-term: 4°C for 1 month

Long-term: at -20°C or below in suitable aliquots after reconstitution for 1 year. Do not expose to multiple freeze/thaw cycles or store working, diluted solutions.

Recommended Usage

Western Blotting: 1-3 ug/ml using affinity pure.

Predicted band size: 64.3 kDa

Observed band size: ~64 kDa

Isoforms: JAR1 has 3 isoforms. JAR11-A antibody can recognize all 3.

Isoform 2: Missing amino acids 13-67. 58 kDa

Isoform 3: Missing amino acids 1-79. 55 kDa.

This product has not been tested in other applications, it may work in other immunoassays. The user must optimize conditions in their own assays.

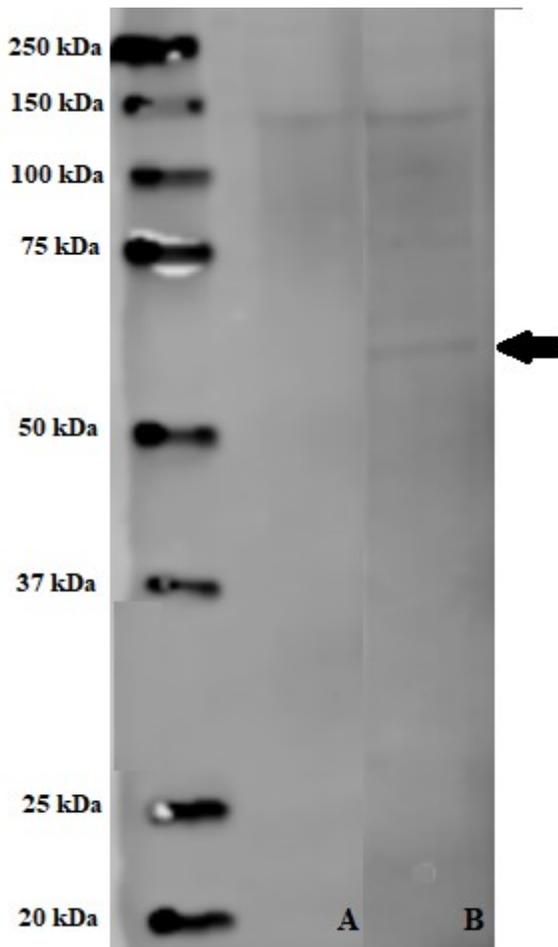
**This product is for In vitro research use only.*

Related materials available from ADI

Catalog#	Description
GLN111-A	Rabbit anti Arabidopsis thaliana Glutamine synthetase cytosolic isoenzyme 1-1 (GLN1-1) IgG, affinity pure
CLAT11-A	Rabbit anti Arabidopsis thaliana Catalase-1 (Cat-1) IgG, affinity pure
PMYO11-A	Rabbit anti Arabidopsis thaliana Myosin 1 IgG, affinity pure
POL111-A	Rabbit anti Arabidopsis thaliana Polymerase Gamma 1 IgG, affinity pure
POL211-A	Rabbit anti Arabidopsis thaliana Polymerase Gamma 2 IgG, affinity pure
PSBS11-A	Rabbit anti-Arabidopsis Thaliana Photosystem II 22 kDa protein, chloroplastic (PSBS) IgG, affinity pure
PACT11-A	Rabbit anti Arabidopsis thaliana Actin-1 (ACT1) IgG, affinity purified
TUBA111-A	Rabbit anti Arabidopsis thaliana Tubulin alpha-1 chain (TUBA1) IgG, affinity purified
TUBB211-A	Rabbit anti Arabidopsis thaliana Tubulin beta-2 chain (TUBB2) IgG, affinity purified
RBCL21-A	Rabbit anti Arabidopsis thaliana Ribulose biphosphate carboxylase large chain (RuBisCO) IgG, affinity pure

JAR11-A

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25 ug of total *Arabidopsis Thaliana* lysate (Lane#1 and 2) were heated for 5 minutes at 95°C then loaded onto a 10% SDS-PAGE gel (Biorad). Gels were run for ~1 hour and 30 minutes at 100V and transferred to a 0.2 um nitrocellulose membrane using the Mixed MW settings on a Transblot Turbo (Biorad). Ladders were annotated with ADI antigen-antibody pen and blocked for 1 hour at room temperature with 1% Fish plasma (Aquablock, EastCoastBio). **Figure A**) JAR11-A was diluted with TBST+3% BSA to 1 ug/ml and incubated overnight at 4°C with 10 ug of blocking peptide per 1 ug of antibody. **Figure B**) J JAR11-A was diluted with TBST+3% BSA to 1 ug/ml and incubated overnight at 4°C. Blots were washed with TBS-T 3 times for 5 minutes each. Goat anti-rabbit IgG HRP (**ADI cat#20320**) was added at 1:5000 dilution (0.1 ug/ml) for 1 hour at room temperature. Blot was washed 3 times with TBS-T for 5 minutes each. ADI Femto ECL substrate (**ADI cat#80210**) was added for 5 minutes and the blot was imaged on a LI-COR C-digit high sensitivity settings. Specific band is observed at ~64 kDa.