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Anti-Aubergine/Sting (RABBIT) Antibody

Aubergine/Sting Antibody
Catalog # ASR5366

Specification

Anti-Aubergine/Sting (RABBIT) Antibody - Product Information

Host	**Rabbit**
Conjugate	**Unconjugated**
Target Species	**Drosophila melanogaster**
Clonality	**Polyclonal**
Application	**WB, E, I, LCI**
Application Note	**Aubergine affinity-purified antibody has been tested for use in ELISA. Specific conditions for reactivity should be optimized by the end user. By western blot a band approximately 98 kDa in size corresponding to Aubergine protein is expected in the appropriate cell lysate or extract.**
Physical State	**Liquid (sterile filtered)**
Buffer	**0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2**
Immunogen	**This affinity purified antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide corresponding to an internal region of Drosophila melanogaster Aubergine/Sting protein.**
Preservative	**0.01% (w/v) Sodium Azide**

Anti-Aubergine/Sting (RABBIT) Antibody - Additional Information

Gene ID 34524

Other Names
34524

Purity
Anti-Aubergine affinity-purified antibody is directed against Drosophila Aubergine protein. The product was affinity purified from monospecific antiserum by immunoaffinity purification. A BLAST analysis was used to suggest limited cross reactivity with Aubergine protein from other sources.

Storage Condition
Store antibody at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.

Precautions Note
This product is for research use only and is not intended for therapeutic or diagnostic applications.

Anti-Aubergine/Sting (RABBIT) Antibody - Protein Information

Name aub {ECO:0000312|FlyBase:FBgn0000146}

Function
Component of the perinuclear meiotic nuage, a germline- specific subcellular membraneless ribonucleoprotein compartment involved in production of transposable element-repressing Piwi-interacting RNA (piRNA)-induced silencing complexes (piRISCs), which are essential for maintaining germline integrity during oogenesis; essential for the formation and/or structural integrity of nuage particles (PubMed:12538514, PubMed:15090597, PubMed:17428915, PubMed:18590813, PubMed:26212455, PubMed:26295961). Acts via the Piwi- interacting RNA (piRNA) metabolic process, which mediates the repression of transposable elements during meiosis by forming complexes composed of piRNAs and Piwi proteins and governs the methylation and subsequent repression of transposons (PubMed:17346786, PubMed:19959991, PubMed:20980675, PubMed:34210982). Directly binds piRNAs, a class of 24 to 30 nucleotide RNAs that are generated by a Dicer-independent mechanism and are primarily derived from transposons and other repeated sequence elements (PubMed:17872506, PubMed:19959991, PubMed:20980675, PubMed:26212455, PubMed:26295961). Shows RNA cleavage or slicer activity; including aub-piRNA complexes from ovary and testis (PubMed:17322028, PubMed:17872506, PubMed:34210982). When loaded with guide piRNAs recognizes and cleaves complementary RNAs to repress their expression and produce complementary piRNAs (PubMed:17346786, PubMed:34210982). Together with Piwi protein AGO3 recruited to subregions of the perinuclear nuage by krimp, which coordinates their activity in the ping-pong amplification step of secondary piRNA biogenesis (PubMed:26295961, PubMed:34210982). Krimp recruits piRNA bound aub and unbound AGO3, bringing them into close proximity to facilitate the loading onto AGO3 of freshly cut piRNAs generated by aub cleavage of target sequences; krimp recognizes the piRNA loading state of the Piwi proteins via symmetrically dimethylated arginine modification in their N-terminus (PubMed:34210982). Important for asymmetric ping-pong amplification to bias production towards antisense piRNAs capable of silencing transposable elements (PubMed:26212455). Required for the localization of mael and krimp to the meiotic nuage (PubMed:12538514, PubMed:17428915). In ovary, associates predominantly with antisense piRNAs that contain uridine at their 5' end (PubMed:26212455). In testis, associates with Su(Ste) antisense piRNAs (most abundant class of piRNAs found in complex with aub in testes) and negatively regulates Ste

expression, most likely by cleaving its transcripts (PubMed:17872506). Also in testis, may repress translation of vas when associated with a piRNA derived from chromosome X, termed AT-chX-1, whose sequence shows strong complementarity to vas mRNA (PubMed:17872506). Involved in repression of long interspersed nuclear elements (LINEs) including HeT-A, I-element and TART LINEs (PubMed:17428915). Repression of specialized telomeric retroelements HeT-A and TART is involved in telomere regulation; Drosophila telomeres being maintained by transposition of specialized telomeric retroelements (PubMed:16452506). Also involved in telomeric trans- silencing, a repression mechanism by which a transposon or a transgene inserted in subtelomeric heterochromatin has the capacity to repress in trans, in the female germline, a homologous transposon, or transgene located in euchromatin (PubMed:14752161, PubMed:15372228). Involved in the suppression of meiotic drive of sex chromosomes and autosomes (PubMed:23267055, PubMed:9927466). Involved in transposon silencing in the adult brain (PubMed:23559253). Required for dorsal-ventral as well as anterior-posterior patterning of the egg (PubMed:11526087). Required during oogenesis for primordial germ cell formation and activation of RNA interference (PubMed:12154120). During early oogenesis, required for osk mRNA silencing and polarization of the microtubule cytoskeleton (PubMed:15035984, PubMed:1783295, PubMed:8625849). During mid- oogenesis, required for osk mRNA localization to the posterior pole and efficient translation of osk and grk (PubMed:15035984, PubMed:1783295, PubMed:8625849). During embryogenesis, required for posterior localization of nanos (nos) mRNA, independently of osk, and pole cell formation (PubMed:15035984, PubMed:20937269). Forms a complex with smg, twin, AGO3 and specific piRNAs that targets nanos mRNA (and probably other maternal mRNAS) for deadenylation promoting its decay during early embryogenesis (PubMed:20953170).

Cellular Location

Cytoplasm. Cytoplasm, cytosol Cytoplasm, perinuclear region. Cytoplasm, Cytoplasmic ribonucleoprotein granule Note=Component of the perinuclear meiotic nuage (also known as germline granule or P granule), a germline-specific membraneless ribonucleoprotein biocondensate involved in post-transcriptional regulation of transposons and mRNAs (PubMed:17428915, PubMed:22303351, PubMed:26295961, PubMed:34210982). Also displays diffused cytoplasmic localization; unmethylated protein is less stably associated with the nuage and more likely to diffuse into the cytosol (PubMed:26295961, PubMed:34210982). When methylated on arginines protein is recruited to granular subregions of the nuage by krimp (PubMed:26295961) Localization to the nuage requires piRNA association (PubMed:26295961) Localization to the nuage is dependent on spn-E and tud but not AGO3; requires krimp for localization to nuage in testes but not in ovaries (PubMed:17428915, PubMed:22303351, PubMed:26295961). In the oocyte and later in the embryo, concentrates at the posterior pole as a component of polar granules of the pole plasm (PubMed:28945271, PubMed:34210982) In the cytoplasm of syncytial embryos, accumulates in discrete foci

Tissue Location
Expressed in ovary. In the germarium, found in germline stem and cyst cells. In egg chambers from stage 6, expressed both in nurse cells and oocytes. In embryos, accumulates in the pole cells, although low expression is detected throughout the entire embryo. In testis, expressed in germline stem cells, gonialblast and spermatogonia cells (at protein level). In the adult brain, expressed in the ellipsoid body, the mushroom body subdivision in the peduncle and the cell body layer. Expressed specifically in alpha'/beta' and gamma neurons.

Anti-Aubergine/Sting (RABBIT) Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-Aubergine/Sting (RABBIT) Antibody - Images

Anti-Aubergine/Sting (RABBIT) Antibody - Background

Aubergine (Sting) is a Drosophila protein involved in germ-line development and RNA interference. Drosophila melanogaster has a robust and efficient innate immune system, which reacts to infections ranging from bacteria to fungi and, as discovered recently, viruses as well. The known Drosophila immune responses rely on humoral and cellular activities, similar to those found in the innate immune system of other animals. Recently, RNAi or 'RNA silencing' has arisen as a possible means by which Drosophila can react to specific pathogens, transposons and retroviral elements, in a fashion similar to that of a traditional mammalian adaptive immune system instead of in a more generalized and genome encoded innate immune-based response. RNAi is a highly conserved regulation and defense mechanism, which suppresses gene expression via targeted RNA degradation directed by either exogenous dsRNA (cleaved into siRNAs) or endogenous miRNAs. In plants, RNAi has been found to act as an antiviral immune response system. In Drosophila multiple core RNAi pathway genes have been reported, including piwi, vasa intronic gene (vig), aubergine (aub), armitage (armi), Rm62, r2d2 and Argonaute2 (AGO2).