

Product Specification Sheet

Hevein Antibodies

Cat. # HEVIN11-P	Hevein Control Peptide	SIZE: 100 ug
Cat. # HEVIN11-S	Rabbit Anti-Hevein antiserum	SIZE: 100 ul
Cat. # HEVIN11-A	Rabbit Anti-Hevein IgG (affinity pure)	SIZE: 100 ug

Rubber (*cis*-1,4-polyisoprene), an isoprenoid polymer, is produced in about 2000 plant species. It is the raw material of choice for gloves, tires and other industrial products. Allergy to natural rubber latex products has been recognized as a serious medical problem especially among health care workers and children with spina bifida. Interestingly, there appears to be significant clinical and immunochemical cross-reactivity between some latex proteins and allergens in certain fruits and vegetables, such as banana, kiwi, avocado, and potato, and patients with fruit and vegetable allergy may be at increased risk for reacting to latex proteins. Proteins leached from the gloves or extractable latex proteins, ranging in size from 5-200 kDa, have been shown to be involved in eliciting type I hypersensitivity. *Hevea brasiliensis* has been the only commercial source of natural rubber mainly because of its abundance in the tree, its quality, and the ease of harvesting. Latex is produced in laticifers, which are specialized structures that consist of anastomosed latex-producing cells. Harvested *Hevea* latex is a complete cytosol with high protein content. Several potential allergens have been identified in Hevea latex, including rubber elongation factor (REF or **Hev b 1**), heveamine-1,3-glucanase (**Hev b 2**), **hevein** preprotein (**HEV1**), a 24-kDa rubber particle-associated protein (RPP) (**Hev b 3**), and a component of the microhelix protein complex (**Hev b 4**), a 16 kDa acidic protein **Hev b 5**, **Hev b 6**, and **Hev b 7**.

Hevein is a chitin-binding protein of 43 amino acids found in the luteoid body-enriched fraction of rubber tree latex. A hevein cDNA clone (HEV1) encodes a putative signal sequence of 17 amino acids followed by a polypeptide of 187 amino acids. Interestingly, this polypeptide has two distinct domains: an amino-terminal domain of 43 amino acids, corresponding to mature hevein, and a carboxyl-terminal domain of 144 amino acids. Hevein is unusually rich in cysteine and glycine. It has been shown to inhibit the growth of several chitin-containing fungi. Many chitin-binding proteins contain 1-3 hevein like domains (HLD) arranged in tandem. Two Wound-induced genes (WIN1 and WIN2) from potato encode proteins with HLD located at the N-terminus.

Source of Antigen and Antibodies

Antigen	43 AA Peptide (designated HEVIN11-P; control peptide) corresponding to hevein (1), coupled to KLH
Antibody host/type	Rabbit, Polyclonal unpurified antiserum (Cat # HEVIN11-S); Rabbit, Polyclonal IgG (Cat # HEVIN 11-A), purified over antigen-Agarose
Secondary Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
Negative Control Ab	Non-immune rabbit IgG (Cat # 20009-1) to be used as -ve control for ELISA, WB, IHC etc.

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified)

100ul solution lyophilized powder
Supplied in Buffer: 0.05% azide
Reconstitute powder in 100 ul PBS

Affinity pure IgG

100 ug/100ul solution lyophilized powder
Supplied in Buffer: PBS+0.1% BSA
Reconstitute powder in PBS at 1mg/ml

Control/blocking peptide

100 ug/100 ul solution lyophilized powder
Supplied in Buffer: PBS pH 7.5,
Reconstitute powder in PBS at 1 mg/ml.

Storage

Short-term: unopened, undiluted liquid vials at -20OC and powder at 4oC or -20oC..

Long-term: at -20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at -20oC or below.

Shipping: 4oC for solutions and room temp for powder

Recommended Usage

Western Blotting (1:1K-5K for neat serum and 1-10 ug/ml for affinity pure using Chemiluminescence technique.

ELISA (1:10K-1:100K; using 50-100 ng of control peptide/well).

Histochemistry & Immunofluorescence. We recommend the use of affinity purified antibody at 10-30 ug/ml in formaldehyde fixed, paraffin-embedded tissues (1).

Specificity & Cross-reactivity

The 43-aa HEVIN peptide is 100% conserved in Hevein, and prohevein. It is 88% homologous in pseudo-Hevein, 75% in WIN2, 70% in class I Chitinase, and WIN. Many chitin-binding proteins are likely to crossreact with this antibody. Antibody cross-reactivity in various species has not been studied. The **HEVIN11-P control peptide** is available to confirm specificity of antibodies. Control peptide, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-10 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity (see detailed protocol at the web site).

General References: Broekaert I et al (1990) PNAS 87, 7633-7637; Lee HI et al (1991) J. Biol. Chem. 266, 15944-15948; Chen HD et al (1998) J. Biomed. Sci. 5, 421-427; Andersen NH et al (1993) Biochemistry 32, 1407-1422.

*This product is for In vitro research use only.

Related material available from ADI

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