

Rabbit Polyclonal Anti-RASD2 antibody

Catalog Number: RHES-101AP

Lot Number: 1153.Pb1.AP

General Information

| | |
|---------------------------------|---|
| Product | RASD2 Antibody |
| Description | Ras homolog enriched in striatum Antibody Affinity Purified |
| Accession # | Uniprot: Q8JZW1 GenBank: AAH36988.1 |
| Verified Applications | ELISA, IMM, WB |
| Species Cross Reactivity | Human, Monkey, Mouse, Rat |
| Host | Rabbit |
| Immunogen | Synthetic peptide taken within amino acid region 250-325 on Rhes protein. |
| Alternative Nomenclature | GTP binding protein Rhes antibody, MGC:4834 antibody, OTTHUMP00000197925 antibody, Ras homolog enriched in striatum antibody, RASD2 antibody, Rhes antibody, TEM2 antibody, Tumor endothelial marker 2 antibody |

Physical Properties

| | |
|---|--|
| Quantity | 100 µg |
| Volume | 200 µl |
| Form | Affinity Purified Immunoglobulins |
| Immunoglobulin & Concentration | 0.64-0.72 mg/ml IgG in antibody stabilization buffer |
| Storage | Store at -20°C for long term storage. |

Recommended Dilutions

| | |
|----------------------------|----------|
| DOT Blot | 1:10,000 |
| ELISA | 1:10,000 |
| Immunoprecipitation | 1:500 |
| Western Blot | 1:500 |

Related Products

Catalog

| | |
|--------------------------------------|-----------|
| FITC-Conjugated | RHES-FITC |
| Antigenic Blocking Peptide | P-RHES |
| Western Blot Positive Control | PC-RHES |

Product Specific References

Harrison, Laura M., Samuel H. Muller, and Daniela Spano. "Effects of the Ras Homolog Rhes on Akt/Protein Kinase B and Glycogen Synthase Kinase 3 Phosphorylation in Striatum." *Neuroscience* 236C (2013): 21–30. [PMC3596425](#) Immunoprecipitation; Mouse

Overview:

Ras homolog enriched in striatum (RHES), belongs to the RASD subfamily of the Ras-related GTP-binding protein superfamily. By responding to extracellular signals, these proteins regulate intracellular signaling pathways, thereby controlling essential cellular functions such as cell growth, gene transcription, cytoskeleton organization and pathways involved in synaptic plasticity, learning and memory (1). RHES, located on mouse chromosome 8, is a product of thyroid hormone-regulated gene during brain development and it regulates signal transduction from G protein-coupled receptors (2). It is implicated in cAMP/PKA signaling pathway- Rhes has been shown to inhibit the cAMP/PKA pathway by thyroid-stimulating hormone (3). Furthermore, RHES modulates dopamine signaling in the striatum- It is essential for correct dopamine-mediated GTP binding (4).

Studies investigating the role of RHES have shown that mice that are deficient in this protein were smaller than the wild type mice (1). These mice also showed behavioral abnormalities such as gender-dependent increase in anxiety levels and lack of clear motor coordination. Such studies also showed that absence of RHES modulated cAMP/PKA signaling in projection neurons by increasing G protein levels (2). RHES is expressed in brain areas that receive dopaminergic input, such as striatum. Therefore, its mRNA expression is controlled by dopamine and its expression is reduced under conditions of dopamine supersensitivity (5). RHES has also been shown to bind Huntingtin and mutant Huntingtin protein (6). Expansion of Huntingtin is usually seen in patients with Huntington's disease.

The Rhes antibodies were generated using peptide corresponding to mouse Rhes protein. Rhes antibodies are affinity purified over immobilized antigen based affinity chromatography, and the purified immunoglobulins are stabilized in antibody stabilization buffer. RHES antibodies will label bands at 48 and 30 kDa which are absent in knockout mice. RHES positive control (PC-RHES) is available in ready-to-use SDS sample buffer. Synthetic peptide (P-RHES) for immunocompetition/immunodepletion assays are also available. FabGennix can conjugate this antibody to secondary enzymes or fluorescent probes at a nominal cost. For a complete listing of all FabGennix antibodies and services please visit www.fabgennix.com.

References:

1. Wasyluk B, Hangman J, Guitierrez-Hartmann A. Ets transcription factors: nuclear effectors of the Ras-MAP-Kinase signaling pathway. *Trends Biochem Sci.* 1998; 23:213-216.
2. Vargiu P, et al. The small GTP-binding protein, Rhes, regulates signal transduction from G protein-coupled receptors. *Oncogene.* 15 January 2004; 23(2):559-568.
3. Bambilla R, et al. A role for the Ras signaling pathway in synaptic transmission and long-term memory. *Nature.* 1999; 390:281-286.
4. Errico F, et al. The GTP-binding protein Rhes modulates dopamine signaling in striatal medium spiny neurons. *Mol Cell Neurosci.* February 2008; 37(2):335-345.
5. Harrison LM, LaHoste GJ. Rhes, the Ras homolog enriched in striatum, is reduced under conditions of dopamine supersensitivity. *Neuroscience.* 2006; 137(2):483-492.
6. Subramaniam S, et al. Rhes, a striatal specific protein, mediates mutant-huntingtin cytotoxicity. *Science.* 5 June 2009; 324:1327-1330.

* For users who may require large amounts of the products listed above, please inquire about bulk material discounts.
This Product is for Research Use Only and is NOT intended for use in humans or clinical diagnosis.