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Antibodies to Retinol Binding Protein Receptors

Anti-RBP4 Receptor Stra6 (Stimulated by Retinoic Acid) antibodies. Catalog # Stra6-101AP and Stra6-112AP

Alternate nomenclature: Vitamin A transporter; Retinoic acid responsive protein, RBP4 Receptor Stra6.

Stra6 gene encodes a membrane bound retinoic acid sensitive protein that facilitates the transport of vitamin A thru its soluble retinol binding protein complex. The transcription of Stra6 is directly regulated by the cellular levels of retinoic acid, which is a strong teratogen when exposed at elevated concentrations during early embryogenesis. The Stra 6 gene was studied in two human fetuses from consanguineous families with Matthew-Wood syndrome. These subjects exhibited severe microphthalmia, pulmonary agenesis, bilateral diaphragmatic eventration, duodenal stenosis, pancreatic malformations, and intrauterine growth retardation (1). In view of the increasing evidence that retinoic acid (RA) is a crucial signaling molecule during vertebrate development, several studies were initiated to systematically isolate the genes whose expression is induced by retinoic acid treatment at various exposure times. Several genes are induced in Pluripotent mouse P19 embryonal carcinoma cells (P19EC) RA treatment. At least 50 different cDNA fragments corresponding to RA-induced genes were isolated, 6 of them are known proteins, 4 of which are described as RA inducible, while the remaining 40 are unknown and novel genes. Two of these unknown novel genes are Stra1 and Stra6. Stra1 corresponds to the mouse ligand for Cck5 receptor protein tyrosine kinase and Stra6 is a vitamin A transporter (1). Stra6 is a membrane bound protein containing 10 TMD characteristic of solute carrier proteins. Stra6 protein is expressed in various tissues including fibroblasts and eye, a detailed analysis of distinct parts of an adult eye revealed expression in sclera, retina, retinal pigment epithelium and trabecular meshwork but not in choroid and iris (2).

A number of mutations in the Stra6 (chromosome 15) gene have been studied. A homozygous deletion generating a premature stop codon that led to absence of the immunoreactive protein in patient fibroblasts culture and three miss-sense mutations (P90L, P293L and T321P) caused significant alteration in the geometry of the loops connecting the transmembrane helices of Stra6. Two other mutations in the C-terminal region caused aberration in the SH2 binding motifs and in the phosphorylation of the Stra67 protein (2). Patients with these mutations show anophthalmia and distinct eyebrows as common signs along with alveolar dysplasia or a common congenital heart defect and diaphragmatic hernia.

Stra6 is a 99 kDa membrane bound protein with 10 TMD as commonly seen in all membrane transporter proteins. The Stra6 selective-antibodies were generated against conserved sequences from the mouse and human Stra6 protein that are unique to either mouse or human stra6 protein. FabGennix Inc employs cyclic peptide methodology for generating antibodies, which results in higher titer and specificity. The Str6-selective antibodies are affinity purified against immobilized antigen based affinity chromatography which yielded epitope-specific antibodies. The Str6 antibodies label a 99kDa protein in Western blot using Western blot positive control for Stra6 (PC-Str6). Anti-Stra6-selective antibodies are most suitable for immunoprecipitation and immunohistochemical localization of Str6 protein. *FabGennix Inc.* will conjugate antibodies with various fluorescent probes upon request at nominal charge. Limited quantities of antigens are also available for blocking studies. Please enquire for their availability before ordering. *FabGennix Inc.* also provides antibodies to various eye related proteins and other targets, for a complete listings visit our website at www.fabgennix.com. *FabGennix Int. Inc.*, will also provide Western blot positive controls for most of these antibodies in ready-to-use buffer for easy identification of respective proteins.

Catalog #	Host Species	Nature	Cross reactivity	Quantity	Price
Stra6-101AP	Rabbit	Affinity purified Stra6 antibody (rat/mouse)	R, M	150-175ul	235
Stra6-112AP	Rabbit	Affinity purified Stra6 antibody (human)	H	150-175	235
PC-Stra6	n/a	Western blot positive control for Stra6	n/a	5 appl	inquire
PC-Stra6h	n/a	Western blot positive control	n/a	5 appl	inquire
P-Stra6	n/a	Antigenic blocking peptide for Stra6-101AP	n/a	250 ug	145
P-Stra6h	n/a	Antigenic blocking peptide for Stra6-112AP		250ug	145

R = rat; M = mouse; H = human; C = chicken; monk = monkey; Sh = sheep; B = bovine ; * not all variants are labeled equally

Immunogen: Synthetic amidated peptide from human retinoic acid responsive protein Stra6, the epitope location is in the third large intra cytoplasmic loop (rat: aa255 to 275 Human: aa 565-575). The peptide was covalently modified to achieve the desired antigenicity and was conjugated to carrier proteins before injected in to rabbits to generate antibodies.

Concentration: Stra6-101AP and Stra-112AP concentrations are in the range of 0.69-1.00 mg/ml of antibody stabilization buffer
Applications: Stra6-101AP and Stra6-112AP are tested for WB application at 1:500 dilution. Other applications for this antibody is not tested. WB: > 1:500; IMM & i.p pull-down assays: n.d; IHC n.d (Antibody dilutions for this antibody is for reference only, investigators are expected to determine the optimal conditions). Cross reactivity among various species was no determined.

Protocols: Standard protocol for various applications (WB, IMM, IHC) of this antibody can be obtained upon request. The specification sheet for Stra6 antibody will be supplied with each product. *FabGennix Inc.*, strongly recommends investigators to optimize conditions for use of this antibody in their laboratories.

From/Storage: The antiserum is supplied in antibody stabilization buffer. Store at -20°C for long-term storage. *FabGennix Inc.* does not recommend storage of very dilute antibody solutions unless they are prepared in specially formulated multi use antibody dilution buffer (DiluOBuffer, Cat# FGI 1963). Working solutions of antibodies in DiluOBuffer should be filtered through 0.45u filter after every use for long-term storage.

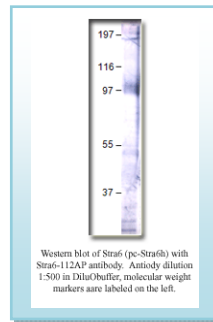
Notes: Now *FabGennix Int. Inc.*, antibody blots now can be stripped and recycle using our specially formulated StripOBuffer (Cat # FGI-1989). This stripping buffer does not require heating or have any pungent smell.

References:

- Bouillet P, Oulad-Abdelghani M, Vicaire S, Garnier JM, Schuhbaur B, Dollé P, Chambon P. Efficient cloning of cDNAs of retinoic acid-responsive genes in P19 embryonal carcinoma cells and characterization of a novel mouse gene, Stra1 (mouse LERK-2/Eplg2). *Dev Biol.* 1995 Aug;170(2):420-33.
- Golzio C, Martinovic-Bouriel J, Thomas S, Mougou-Zrelli S, Grattagliano-Bessieres B, Bonniere M, Delahaye S, Munnich A, Encha-Razavi F, Lyonnet S, Vekemans M, Attie-Bitach T, Etchevers HC. Matthew-Wood syndrome is caused by truncating mutations in the retinol-binding protein receptor gene STRA6. *Am J Hum Genet.* 2007 Jun;80(6):1179-87. Epub 2007 Apr 11. [Links](http://links)

*For users who may require large amounts of Str6-101AP and Stra6-112AP, please enquire about bulk material discounts.
 This Product is for Research Use Only and is NOT intended for use in humans or clinical diagnosis.

091307-0020SF1001Z-rev10.00



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