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Antibodies to Cancer marker proteins

Draxin (Chromosome 1 Open reading frame 184) antibodies (Cat # Drax-101AP, P-Drax, PC-Drax)

Alternate nomenclature/Accession #: Dorsal repulsive axon guidance protein, Chromosome 1 Open reading frame 184

The secreted protein discovery initiative (SPDI) was established to identify novel secreted and trans-membrane proteins. The isolation of full-length cDNA clones for each of these candidate genes resulted in the identification of >1000 novel proteins. A total of 256 of these cDNAs are still novel, including variants and novel genes, per the most recent GenBank release version. The success of this large-scale effort was assessed by a bioinformatics analysis of the proteins through predictions of protein domains, subcellular localizations, and possible functional roles. The SPDI collection should facilitate efforts to better understand intercellular communication, may lead to new understandings of human diseases, and provides potential opportunities for the development of therapeutics. Chromosome 1 is gene-dense, with 3141 genes and 991 pseudogenes and many coding sequences overlap. The rearrangement and mutations in chromosome 1 are prevalent in cancer and many other diseases. Fine scale recombination occurs in hotspots of varying intensity along the sequences and these rearrangement and mutations are enriched near genes (1).

One of the gene on chromosome 1 codes for a secreted protein Draxin, that acts as chemorepulsive axon guidance molecule required for the development of spinal cord and forebrain commissures (2). There are several axonal guidance proteins including netrins, semaphorins, ephrins, slits and morphogens such as hedgehog, Wnts and bone morphogenetic proteins (BMPs) that are involved in development of nervous system. However, immense complexity of CNS makes it likely that there are several more factors that are yet to be identified. Using signal sequence trap screening, a recently identified dorsal repulsive axonal guidance protein, draxin from motoneurons, floorplate and roof plate of chick embryo is identified (3). Transient expression of draxin was noted during CNS and spinal cord development. In mouse draxin is expressed in several brain regions including cortex, olfactory bulb, mid-brain and pontine nuclei of the post natal day 0 mouse brain. Deduced amino acid sequence analyses of draxin suggest no homology with any characterized axonal guidance or morphogens. The chick draxin consists of amino terminal signal peptide sequence but no membrane anchoring motifs which suggest draxin is a secreted protein. Ectopic expression of draxin inhibits growth and disrupts the routing of commissural axons as is required for development of midline crossing forbrain commissures. It is suggested that draxin may be involved in the formation of indusium grieseum glia (2).

FabGennix has made rabbit anti-Draxin-antibodies using peptide taken unique region from near the carboxy-terminal end of the protein. The antigenic peptide was post-synthetically modified and covalently coupled to achieve desired antigenicity before using it as an immunogen to immunize rabbits. The rabbit antibodies obtained were isolated and purified on an immobilized antigen based affinity chromatographic matrix before stabilizing them in antibody stabilization buffer. Draxin antibodies labels Draxin protein as a single 41kDa band in PC-Draxin samples. Limited quantity of blocking peptide and Western blot positive controls for draxin in ready-to-use buffer (Cat PC-Drax) is also available, please inquire before placing order. *FabGennix Inc.* will conjugate this antibody to fluorophores, secondary enzymes, or biotin, inquire for pricing and availability. FabGennix has made a number of antibodies against axonal guidance factors and morphogens, for a complete listing please visit www.fabgennix.com.

Catalog #	Description	Host	Cross reactivity	Qty
Drax-101AP	Affinity purified Draxin (Chromosome1 Orf184) Antibody	Rabbit	H, M, R, C, mon, chicken	100 ug
P-Drax	Antigenic blocking peptide for Drax-101AP	Rabbit	n/a	250ug
PC-Drax	Western blot positive control for Draxin	Partially purified protein	n/a	For 5 appl

R = rat; M = mouse; H = humans; R = rabbit, C = cow, mon = monkey. WB, Western Blot analyses; IMM, Immunoprecipitation; IHC, Immunohistochemistry, n.d, not determine.

Immunogen: Synthetic peptide from amino acids 301-320 corresponding to the following sequence (kcf ddc mcv egl rcy akf), was selected from the unique region of the Draxin protein, peptide was post-synthetically modified to achieve highest antigenicity before used for coupling to KLH using heterobifunctional cross linker for immunogen preparation.

Concentration: Antibodies Drax-101AP has immobilized antigen based affinity chromatography purified immunoglobulin concentration of 0.63-0.66g/ml in antibody stabilization buffer.

Applications: ELISA/dot blot: Antibody dilution 1:20,000-1:50,000;. Western blot: Antibody dilution 1:500-1,000 in diluObuffer. PC-Drax sample 25ul/lane. Other applications (IHC, confocal and Immunoprecipitation for these antibodies are not yet established. Application of this antibody in protocols not listed here does not necessarily exclude its use in such procedures. If you are going to use this antibodies in applications not listed here and would like to try this antibody in your assay, please contact us for a complimentary sample of this antibody.

Reactivity The antibody Dra-101AP labels a 41kDa Drain protein band in PC-Drain samples.

Protocols: Description on how to use this antibody in various applications is provided with the product. Standard protocol for various applications (WB; immunoprecipitation and IHC) of this antibody can be requested by calling our Technical support line. The recommended dilutions are for reference only and FabGennix Inc. strongly recommends investigators to optimize conditions for use of this product in their laboratories.

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

Notes: Briefly centrifuge to collect liquid, heat or boil PC-HSD5 tube for 1-2 minutes to dissolve any precipitate before use. This product is "ready-to-use" for electrophoresis. After thawing store at room temperature, Repeated freezing and thawing may result in appearance of higher molecular weight immunoreactive bands. Now Western blots can be stripped and recycle using our specially formulated StripOBuffer (Cat # FGI-1989) up to 8 times with out any distortion and significant loss in signal to noise ratios. This stripping buffer does not require heating or have any pungent smell.

References:

- Zhang Z, Henzel WJ. Signal peptide prediction based on analysis of experimentally verified cleavage sites. Protein Sci. 2004 Oct;13(10):2819-24. Epub 2004 Aug 31.
- Islam SM, Shinmyo Y, Okafuji T, Su Y, Naser IB, Ahmed G, Zhang S, Chen S, Ohta K, Kiyonari H, Abe T, Tanaka S, Nishinakamura R, Terashima T, Kitamura T, Tanaka H. Draxin, a repulsive guidance protein for spinal cord and forebrain commissures. Science. 2009 Jan 16;323(5912):388-93.

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

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