



FabGennix Inc.
INTERNATIONAL

New Item
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Antibodies to WW-containing Oxidoreductases (WWOX) or WUSCHEL-related homeobox proteins
Anti-WW-domain containing Oxidoreductase 4 (WWOX 4) antibodies Cat # WOX-400P and WOX-401AP

The WWOX (WW-domain containing oxidoreductase) is a candidate tumour suppressor gene spanning the same chromosome region, 16q23, as the second most common fragile site (FS), FRA16D (1). Several deletion mutants of this protein have been identified using comparative genomic hybridization (CGH). Loss of DNA copy-number confined to band 16q23 was detected by CGH in several cell lines. Although homozygous deletions of the WWOX gene were not detected, WWOX mRNA expression was absent or lower in 60% of cell lines (1). A number of Wwox proteins have been identified ranging from 47kDa to 8 kDa (Wwox-1 thru Wwox-9). It has been shown that expression of a novel WOX (WUSCHEL related homeobox) gene family members reveal early embryonic patterning events in Arabidopsis. WOX2 and WOX8 are co-expressed in the egg cell and zygote and become confined to the apical and basal daughter cells of the zygote, respectively, by its asymmetric division. Expression of WOX5 shows that identity of the quiescent center is initiated very early in the hypophyseal cell, and highlights molecular and developmental similarities between the stem cell niches of root and shoot meristems. WOX9 expression is initiated in the basal daughter cell of the zygote and subsequently shifts into the descendants of the apical daughter apparently in response to signaling from the embryo proper. It has been shown that Wwox 1 and its tyrosine 33 phosphorylated form is Down-regulated in the neurons of AD patients hippocampi compared to aged matched controls (2). In vitro down-regulation of Wwox 1 by siRNA remarkably hyperphosphorylate Tau proteins at position of WW domain-containing oxidoreductase (Wox 1) induces Tau phosphorylation at position Thr 212/231 and Ser 515/516, enhanced phosphorylation of Glycogen synthase kinase 3 beta, and ERK (2). The interaction of WOX1 with Tau via its short-chain alcohol dehydrogenase/reductase domain is likely to play a critical role in regulating Tau hyperphosphorylation and neurofibrillary tangles (NFTs) in the neurons of Alzheimer's disease (AD). WWOX1 encodes a 46 kDa protein that contains two WW domains and a short-chain oxidoreductase (SDR) domain. The Wox 1-selective antibodies were generated in rabbits against unique N-terminal peptide that are common to Wox1 and Wox 4 proteins. Wox-1 antibodies also labels Wwox 4 protein but does not cross reacts to other Wwox proteins. FabGennix Inc. has generated specific mono-epitope-specific rabbit anti-Wwox1 antibodies using linear and multiple antigenic peptide (MAP) methodology. These antibodies have been characterized by ELISA, Westerns and dot blot assays using various cell lines. FabGennix Inc. has also produced other related antibodies that are listed under "Antibodies to Diagnostic markers" that will facilitate research on cancer detection. Anti-Wwox 1 antibodies are available in affinity purified form and can be labeled with fluorophores and secondary enzymes upon request. FabGennix Inc. also provides limited quantities of antigenic blocking peptides for Wwox 1 antibodies.

Catalog #	Description	Antigen/Positive control	Cross reactivity	Qty	Price
Wox-400P	Polyclonal anti-Wwox 4 Antibody	Near N-terminal peptide	R, M, H	100 ul	\$205
Wox-401AP	Affinity purified Wwox 4Antibody	Near N terminal peptide	R, M, H	100 ug	\$225
P-Wox400	N-terminal antigenic blocking peptide	N-terminal peptide	250 ug	150ul	\$95
PC-Wox 4	Western blot positive control	For 5 applications	n/a	5 appl	\$165

R = rat; M = mouse; H = humans; R = rabbit * Actual volume is between 150-200 ul; WB, Western Blot analyses; IMM, Immunoprecipitation; IHC, Immunohistochemistry, n.d, not determine; * cross reactivity to other species have not been determined.

Concentration: Wox-400P neat serum; Wox-401AP = IgG concentration 0.5-0.75 mg/ml in antibody stabilization buffer.
Applications: ELISA: Antibody dilution 1:10,000 -100,000 for ELISA or DOT blot assay. W.B: 1:500; IMM & IHC n.d.

Protocols: Standard protocol for various applications (WB, IMM and IHC) of this antibody is provided with the product specification sheet, however, FabGennix Inc. recommends investigators to optimize conditions.

Form/Storage: The antiserum is supplied in antibody stabilization buffer. 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 0.45µ filter after every use for long-term storage.

References:

- Haecker A, Gross-Hardt R, Geiges B, Sarkar A, Breuninger H, Herrmann M, Laux T. Expression dynamics of WOX genes mark cell fate decisions during early embryonic patterning in Arabidopsis thaliana. Development. 2004 Feb;131(3):657-68. Epub 2004 Jan 07.
- Sze CI, Su M, Pugazhenth S, Jambal P, Hsu LJ, Heath J, Schultz L, Chang NS. Down-regulation of WW domain-containing oxidoreductase induces Tau phosphorylation in vitro. A potential role in Alzheimer's disease. J Biol Chem. 2004 Jul 16;279(29):30498-506. Epub 2004 May 04.

Note: Briefly centrifuge antibodies to collect liquid at the bottom. Aliquot in working volumes before long-term storing at -20°C. Repeated freeze/thaw may result in appearance of higher molecular weight immunoreactive bands.

* For users who may require large amounts of Wox-400P and Wox-401AP, please enquire about bulk material discounts.

This Product is for Research Use Only and is NOT intended for use in humans or clinical diagnosis.

Lot #: FGI-*.AP2

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