ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

Fodrin-α (spectrin α) Antibodies

☐ **Cat** # FOD11-P	Human Fodrin-α control/blocking peptide	**SIZE**: 100 ug
☐ **Cat** # FOD11-S	Rabbit Anti-Human Fodrin-α antiserum	**SIZE**: 100 ul
☐ **Cat** # FOD11-A	Rabbit Anti-Human Fodrin-α IgG, aff pure	**SIZE**: 100 ug

Glutamate is the main excitatory neurotransmitter in the brain. To date five glutamate Transporters have been cloned: **GLAST (EAAT1), GLT1 (EAAT2), EAAC1 (EAAT3), EAAT4, and EAAT5**. These transporters are believed to be critical in reducing potentially toxic extracellular concentration of glutamate by rapid uptake into nerve terminals and glial cells. Glutamergic neurotransmission occurs through an exocytotic process involving the interaction of glutamate containing synaptic vesicles with the plasma membranes of the presynaptic ending. Recently a protein, termed **inhibitory protein factor (IPF)**, has been isolated from brain that inhibits glutamate and GABA uptake into synaptic vesicles (IC50 ~25 nM). IPF does not inhibit ATP-independent uptake, norepinephrine uptake into chromaffin vesicles, and Na-dependent glutamate uptake into synaptosomes. IPF refers to a three distinct proteins with ~mol wt of 138kDa (IPF-α), 135 kDa (IPF-β), and 132 kDa (IPF-γ). IPF-α is derived from a ubiquitous, non-erythroid brain spectrin called **α-Fodrin**, a well-characterized protein previously implicated in exocytosis/endocytosis, apoptosis, and NMDA-receptor activation. However, α-Fodrin itself has no effect on glutamate uptake. The N-terminal 1-20 aa of IPF-α, IPF-β, and IPF-γ are identical with 26-45 aa of α-Fodrin (mol wt ~240 kDa). Therefore, it appears that some identified protease(s) may generate IPF-α from α-Fodrin.

Source of Antigen and Antibodies

Antigen	Human fodrin-α is 2472 aa protein . A 10-aa peptide from fodrin-α **(1)**; **Designation (#FOD11-P, control/blocking peptide**) conjugated to KLH. Epitope location ~ N-terminus
Ab Host/type	Rabbit, Polyclonal unpurified antiserum (#**FOD11**-S) and IgG, purified over antigen-agarose (Cat # **FOD11**-A)
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
-ve control	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as –ve control

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified)
☐ 100ul ☐ solution ☐ lyophilized powder
Supplied in 0.1% 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 **-20°C** and powder at **4°C or -20°C**..

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

Stability: 6-12 months at **–20°C** or below.
Shipping: **4°C** for solutions and room temp for powder

Recommended Usage

Western Blotting 1:1K-5K for antiserum and 1-10 ug/ml for aff pure IgG using Chemiluminescence technique. IPF's are approx. ~240 kDa.

ELISA: Control peptide can be used to coat ELISA plates at 1 ug/ml and detected with antibodies (1:10-50K for antiserum serum and 0.5-1 ug/ml for affinity pure IgG).

Histochemistry & Immunofluorescence: not tested

Specificity & Cross-reactivity

Human FOD11-P sequence is 100% conserved in rat, canine, and chicken fodrin-α. Antibody crossreactivity in various species is not established. 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: (1) Ozkan ED et al (1997) PNAS 94, 4317-4142; Tamura Y et al (2001) J. Neurochem. 76, 1153-1164; moon RT et al (1990) JBC 265, 4427; McMahon AP et al (1987) Biochem. Soc,. Trans. 15, 804; Hong WJ (1989) JBC 264, 12758.

Citations of ADI's antibodies for Glutamate related products (see updated list at the web site)

**This product is for In vitro research use only.*

Related material available from ADI

Anti-GLAST, EAAC1, GLT1, EAAt4, EAAT5, GTRAP41, GTRAP48, VGLUT1/BNPI, VGLUT-2/DNPI & GABA Transporters (GAT1-3)

FOD11-S-A-P 240916 71226S

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