



FabGennix Inc.
INTERNATIONAL

New Item
New Item

Customer Service: 1-800 786 1236
Technical Service: 214 387 8105
Fax: 214 387 0870
Info@fabgennix.com
www.fabgennix.com

Anion Channel protein (Chloride Channel) antibodies

Bestrophin-3 (Vettiliform macular dystrophy 2-like protein 3, VMD2 like protein3) Cat # Best-301AP, P-Best3 & PC-Best3

In the recent past at least 3 different family for “chloride channel” have been characterized: CIC family, ligand gated channels for the GABA and glycine receptor family and the cystic fibrosis membrane conductance regulator. These chloride channels play important role in maintaining resting potentials, ion refluxes, acidification of internal organelles such as lysosomes in both excitatory and non-excitatory nerve and muscle cells. The Bestrophins are a newly described family of “anion channels” unrelated in primary sequence to any previously characterized channel proteins. Bestrophins were originally defined as a family of over 20 related sequences of the *C. elegans*. The first mammalian bestrophin was identified as the vitelliform macular dystrophy (VMD), 1 also known as Best disease (1). Three more members of the bestrophin family members were cloned and identified recently, Bestrophin 2, 3 and 4.

The bestrophin family members are membrane protein with 2-TMD and have a conserved 350-400 amino domain including the invariant peptide motif RFP. Each of the Bestrophin proteins has a unique C-terminus that lack similarity to other proteins or motifs. Bestrophin 1 gene is localized to chromosome 19p13.2-p13.12, Bestrophin 2 to 1p32.3-p33 and Bestrophin 3 to 12q14.2-q15. RT-PCR analyses revealed tissue-restricted expression of the three genes with both Bestrophin 1 and Bestrophin 2 are abundantly transcribed in colon. Bestrophin 1 is present in the retinal pigment epithelium while Bestrophin 3 shows predominant expression in skeletal muscle (2, 3). Functionally the bestrophines oligomerize to form tetramers and pentamers in order to act as calcium sensitive chloride channels. It has been shown that Bestrophin interacts with beta catalytic subunit of protein phosphatase 2A (PP2Ac). Such Protein-protein interaction between bestrophin and PP2Ac and the structural subunit of PP2A, PR65, was confirmed by reciprocal immunoprecipitation. The interaction between PP2Ac and the Bestrophin takes place near the Carboxy-terminal end of the protein. Okadic acid induce the phosphorylation of Bestrophin in vitro. Bestrophin also serves in the signal transduction pathway that modulates the light peak of the EOG, that is regulated by phosphorylation of the Bestrophin that in turn is regulated by protein phosphatase 2A (PP2A).

The Anti-Bestrophin 3-selective antibodies were generated against unique sequences near the C-terminal end of the proteins that are unique to Bestrophin 3 protein. The Bestrophin 3-selective antibodies were affinity purified against immobilized antigen based affinity chromatography and are represented as epitope-specific antibodies. The polyclonal antibodies strongly label a 65 kDa protein in PC-Bst3 sample. *FabGennix Inc.* will also conjugate antibodies with fluorescent probes upon request at extra charge. *FabGennix Int. Inc.*, employs cyclic peptide methodology for generating high specificity and affinity antibodies (6). *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. Limited quantities of antigens are also available. Please enquire for their availability before ordering.

Catalog #	Host Species	Nature	Cross reactivity	Quantity	Volume	price (US \$)
Best-301AP	Rabbit	Affinity purified Bestrophin 3 IgG	R, M, H, monk	100 ug	150 ul	235
P-Best 300	n/a	Antigenic blocking peptide	n/a	250 ug	100 ul	115
PC-Best 3	n/a	WB positive control	human/rat	100ug	inquire	185

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

Immunogen: Synthetic peptide for Bestrophin 3 antibodies are from the unique region corresponding to amino acids (ehtgstpqrptw) the peptide was post-synthetically modified to achieve desired immunogenicity. The peptide P-Best300 was amidated before conjugation.

Concentration: Bst-301AP 0.75-1.2 mg/ml of antibody stabilization buffer

Applications: Antibody Bst-301AP is ideal for IMM and WB. IHC assays and other applications has not established. The dilutions for this antibody is for reference only, investigators are expected to determine the optimal conditions for specific assay in his/her laboratory. For Bst-201AP: Western blotting: > 1:500; Immunoprecipitation & i.p pull-down assays: > 1:200; IHC n.d

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

References:

1. Marmorstein LY, McLaughlin PJ, Stanton JB, Yan L, Crabb JW, Marmorstein AD. *J. Biol. Chemistry* 2002; June 10, Electronic publication.
2. Stohr H, Marquardt A, et. al., *Eur J Hum Genet.* 2002 Apr;10(4):281-4. Related Articles, Links
3. Takashi Tsunenari, Hui Sun, John Williams, Hugh Cahill, Philip Smallwood, King-Wai Yau ** and Jeremy Nathans. *J. Biol. Chem.*, Vol. 278, Issue 42, 41114-41125, October 17, 2003

* For users who may require large amounts of Best-101AP/Best-112AP and Best-121AP, please enquire about bulk material discounts.
This Product is for Research Use Only and is NOT intended for use in humans or clinical diagnosis.

011502-0020SF1001Z-rev10.00

FabGennix Inc.
INTERNATIONAL

5850 Town and Country Blvd. Suite 301. Frisco, TX 75034

Customer service: 1800 786 1236; Technical Support: 214 387 8105