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INTERNATIONAL

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Antibodies to Cancer marker proteins

Anti-Tumor Protein D52 (TPD52) antibodies Cat # TPD52-101AP and TPD52-112AP

Alternate nomenclature: (hD52, N8L gene product-long form, Prostate colon specific protein 1)

The tumor protein D52 was found to be associated with immunoglobulin super-family receptor translocation-associated 1 (IRTA1) receptor in the b cells of normal lymphohematopoietic tissue. The 28kDa protein TPD52 expression was also noted in only in normal and neoplastic epithelia. Unlike other B-cell associated molecules (Pax5, CD19, CD79a, CD20 and CD22) which are down regulated during differentiation from B-cell to plasma cells, the TPD52 expression reached maximum level at the plasma cell stage (1). TPD52 expression in thiel myeloma cell line was localized with Annexin IV in a calcium dependent manner suggesting that TPD52 and Annexin may regulate the secretory processes as has been observed in pancreatic acinar cells (1). The elevated expression of TPD52 was also found in lung and breast carcinomas where it was suggested to play a role in calcium mediated signal transduction and cell proliferation. The TPD52 was differentially expressed in fetal and adult tissues, in adult high expression levels were noted in brain, kidney, prostate, pancreas and intestine and at very low levels in lungs, liver, hematopoietic cells and gonads. During development the protein is expressed in epithelium of the intestine, stomach, olfactory and neuronal layers of retina (2). TPD52 expression was differential in Normal to low levels of this protein was found in The TPD52 protein represent a family of proteins with predicted coil-coil domain that demonstrate homo and heteromeric interactions with other tumor protein homologs hD52, hD53 and hD54 (3).

TPD52 was localized on chromosome 8p13 region. There are at least 3 isoforms reported in literature (TPD52 isoform 1, 2 and 3) with significant homology, the differences are in alternate splicing of exons. The tumor protein related family members are also implicated in cell proliferation, apoptosis and vesicle trafficking. The TPD52 is a 224 amino acid, 28 kDa protein (TPD52 isoform 1). A testis specific tumor protein (hD55) was identified by yeast-two hybrids and GST pull-down assays which suggest that hD55 interacts with TPD52, hD53 and hD54 and itself. The hD55 is expressed 5-6 fold excess amount in adult testis than in fetal testis suggesting its role in spermatogenesis (4).

The TPD52-selective antibodies were generated against synthetic peptides from unique regions of the TPD52 isoform 1. The TPD52 peptides were post-synthetically modified to achieve the desired antigenicity before injecting in to rabbits to obtained antibodies. The antibodies were isolated on an immobilized antigen based affinity matrix before stabilizing them in antibody stabilization buffer. Both these two antibodies label TPD52 protein as a single 28kDa band in PC-TPD52 samples. *FabGennix Inc.* provides Western blot positive controls for TPD52 in ready-to-use buffer for SDS-PAGE and western blotting applications. Limited quantities of antigenic blocking peptides for this antibody are also available (Inquire before placing orders). For a complete listing of all cancer related antibodies, visit our website at www.FabGennix.com.

Catalog #	Description	Host	Cross reactivity	Qty
TPD52-101AP	Tumor Protein D52 Antibody	Rabbit	Human	100 ug
TPD52-112AP	Tumor Protein D52 antibody	Rabbit	human	100ug
P-TPD52	Antigenic blocking peptide for TPD52-101AP	Synthetic peptide	n/a	250ug
P-TPD52	Antigenic blocking peptide for TPD52-112AP	Synthetic peptide	n/a	250ug
PC-TPD52	Western blot positive control for TPD52	Partially purified protein	n/a	For 5 appl

R = rat; M = mouse; H = humans; R = rabbit * Actual volume is 103-110 µl; WB, Western Blot analyses; IMM, Immunoprecipitation; IHC, Immunohistochemistry, n.d, not determine.

Immunogen: TPD52 antibodies are developed against conserved antigenic peptide sequences corresponding to aa 659-674, unique to TPD52 variant 1, the peptide was covalently modified to achieve desired antigenicity before used as antigen.

Concentration: Antibodies TPD52-101AP has immobilized antigen based affinity chromatography purified immunoglobulin concentration of 0.65-0.694mg/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-TPD52 sample 25ul/lane. Other applications (IHC, confocal and Immunoprecipitation for these antibodies are not yet established.

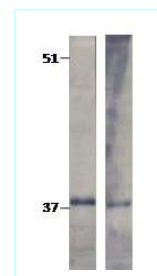
Reactivity The antibodies TPD52-101AP and TPD52-112AP label a 28kDa TPD52 band in PC-INAD samples.

Protocols: Description and use of this antibody in various applications is provided with the product. Standard protocol for various applications (Western blot; immunoprecipitation and immunohistochemistry) 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 0.45µm filter after every use for long-term storage.

References:

1. Tiacci E, Orvietani PL, Bigerna B, Pucciarini A, Corthals GL, Pettrossi V, Martelli MP, Liso A, Benedetti R, Pacini R, Bolli N, Pileri S, Pulford K, Gambacorta M, Carbone A, Pasquarello C, Scherl A, Robertson H, Scirpi MT, Alunni-Bistocchi G, Binaglia L, Byrne JA, Falini B. Tumor protein D52 (TPD52): a novel B-cell/plasma-cell molecule with unique expression pattern and Ca(2+)-dependent association with annexin VI. *Blood*. 2005 Apr 1;105(7):2812-20. Epub 2004 Dec 2.
2. Chen SL, Maroulakou IG, Green JE, Romano-Spica V, Modi W, Lautenberger J, Bhat NK. Isolation and characterization of a novel gene expressed in multiple cancers. *Oncogene*. 1996 Feb 15;12(4):741-51. Links
3. Byrne JA, Nourse CR, Basset P, Gunning P. Identification of homo- and heteromeric interactions between members of the breast carcinoma-associated D52 protein family using the yeast two-hybrid system. *Oncogene*. 1998 Feb 19;16(7):873-81.
4. Cao Q, Chen J, Zhu L, Liu Y, Zhou Z, Sha J, Wang S, Li J. A testis-specific and testis developmentally regulated tumor protein D52 (TPD52)-like protein TPD52L3/hD55 interacts with TPD52 family proteins. *Biochem Biophys Res Commun*. 2006 Jun 9;344(3):798-806. Epub 2006 Apr 19.



Western blot of PC-TPD52 with TPD52-101AP (right) and TPD52-112AP (left lane). Antibody dilutions were 1:750 in diluOBuffer.

*Note: Briefly centrifuge to collect liquid, heat or boil PC-TPD52 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.

* For users who may require large amounts of TPD52-101AP and TPD52-112AP, please enquire about bulk material discounts. This Product is for Research Use Only and is NOT intended for use in humans or clinical diagnosis.

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