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### Antibodies to E2F Family members of Transcription Factors (E2F-Family)

#### Anti-E2F5 Transcription Repressor Factor (E2F5) Antibodies (E2F5-501AP)

E2F transcription factors are important key regulators of cell growth control. Multiple types of E1F factors are cloned and characterized that fall in 2 functional categories, based on current evidence, the E2Fs can be functionally divided into Transcriptional activators (E2F1, E2F2, E2F3a) or repressors (E2F3b, E2F4, E2F5, E2F6 and E2F7). Recently a novel E2F8 factor is also characterized that share common structural motifs with E2F7 such as presence of 2 distinct DNA binding domains, and the DP-dimerization domains. E2F transcription factors are known to play important role in a number of pathological conditions. The E2F family of transcription factors consists of two subgroups termed E2F and DP transcription factors that binds DNA cooperatively with dp proteins through the E2 recognition site, TTTCC/GCGC, found in the promoter region of a number of genes. E2F-1 binds preferentially RB1 protein, in a cell-cycle dependent manner. It can mediate both cell proliferation and p53-dependent apoptosis. The E2F-1 complex binds specifically hypophosphorylated retinoblastoma protein RB1. During the cell cycle, RB1 becomes phosphorylated in mid-to-late G1 phase, detaches from the DRTF1/E2F complex, rendering E2F transcriptionally active. Deregulation of the Rb-E2F1 pathway also results in the activation of p53 and the promotion of apoptosis, and this led to the suppression of tumor development (2). A double mutant of E2F1/E2F2 mouse has shown to develop non-autoimmune insulin-deficient diabetes and exocrine pancreatic dysfunction with exocrine dysplasia (1).

E2F proteins are also involved in the regulation of human intestinal epithelial cell proliferation and development. The expression of E2F1 is decreased and E2F4 protein is sequestered in the cytoplasm during G(0) arrest associated with serum deprivation, confluence, and terminal differentiation of intestinal cells (3). E2F1 deficiency also impairs murine spermatogenesis and augments testicular degeneration. E2F-1, E2F-2 and E2F-5 are first detected in the 9.5 days post-coitus (dpc) forebrain. Expression of these E2F forms extends caudally thereafter and includes the developing brain and the upper half of the 10.5 dpc spinal cord (4).

The E2F5-selective antibodies were generated against three antigenic sequences from N-, midregion and C-terminal end of the protein. The antibodies E2F5 are affinity purified over immobilized antigen based chromatography, and the purified immunoglobulins are stabilized in antibody stabilization buffer. FabGennix Int. Inc., will also provide limited quantities of antigenic blocking peptides for E2F5 antibodies. FabGennix International Inc. also carries antibodies related to transcription factors and RNA splicing factors, for a complete listing please visit [www.Fabgennix.com](http://www.Fabgennix.com). FabGennix Inc. will also conjugate antibodies with fluorescent probes upon request at a reasonable cost.

Catalog #	Host Species	Nature	Cross reactivity	Quantity	price
E2F5-501AP	Rabbit	Affinity purified E2F5 antibodies	H	100 ug	235
P-E2F101	n/a	Antigenic blocking peptide for E2F5-501AP	n/a	250 ug	115
PC-E2F5	n/a	Western blot positive control for E2F5	n/a	for 5 appl	185

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

- Immunogen:** Synthetic peptides corresponding to E2F5 at epitope positions: E2F5 (aa 9-27: aqp tpq aqa qpp phg aps) sequences unique to E2F5 factor, these sequences are conserved in many species. The peptide was covalently modified to achieve the desired immunogenicity.
- Concentration:** E2F5-501 IgG concentration 0.88-0.96 mg/ml in antibody stabilization buffer.
- Applications:** Antibody E2F5-501AP is ideal for IMM/WB applications for detection of E2F5 protein. The antibody E2F5-501AP does not cross react to other members of the E2F family. The species cross reactivity for these antibodies have not been examined. The dilutions for this antibody is for reference only, investigators are expected to determine the optimal conditions for specific assay. WB: > 1:1000; IMM & i.p pull-down assays: n.d; IHC n.d.
- Reactivity:** This antibody detects a single band of approximately 53 kDa of E2F1 in E2F1 Western blot positive control (Cat # PC-E2F1) samples. The antibody does not cross react with other proteins of the E2F family members.
- Protocols:** Standard protocol for various applications (WB; IMM and 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.
- Form/Storage:** The antiserum is supplied in antibody stabilization buffer. The affinity-purified antibodies are isolated on immobilized antigen-affinity column and supplied as stabilized product. Store at -20°C for long-term storage. 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.
- Notes:** Now Western blots now can easily be stripped and recycle using our specially formulated StripOBuffer (Cat # FGI-1989). This stripping buffer does not require heating or have any pungent smell.

**References:**

- Dagnino L, Fry CJ, Bartley SM, Farnham P, Gallie BL, Phillips RA. Mech Dev. 1997 Aug;66(1-2):13-25 Iglesias A, Murga M, Laresgoiti U, Skoudy A, Bernales I, et al., J Clin Invest. 2004 May;113(10):1398-407.
- Powers JT, Hong S, Mayhew CN, Rogers PM, Knudsen ES, Johnson DG. Mol Cancer Res. 2004 Apr;2(4):203-14.
- Deschenes C, Alvarez L, Lizotte ME, Vezina A, Rivard N. J Cell Physiol. 2004 May;199(2):262-73.
- Mech Dev. 1997 Aug;66(1-2):13-25. Related Articles, Links
- Dagnino L, Fry CJ, Bartley SM, Farnham P, Gallie BL, Phillips RA. Expression patterns of the E2F family of transcription factors during mouse nervous system development. Mech Dev. 1997 Aug;66(1-2):13-25.

For users who may require large amounts of E2F5-501AP, 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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