

### Product Specification Sheet

**Product:** Affinity Purified anti-ATF3 [Rabbit]

**Code:** 600-401-493

**Lot #:** 13283

**Size:** 100 µg

**Physical State:** Liquid (sterile filtered)

**Antibody Concentration:** 1.0 mg/ml (by UV absorbance at 280 nm)

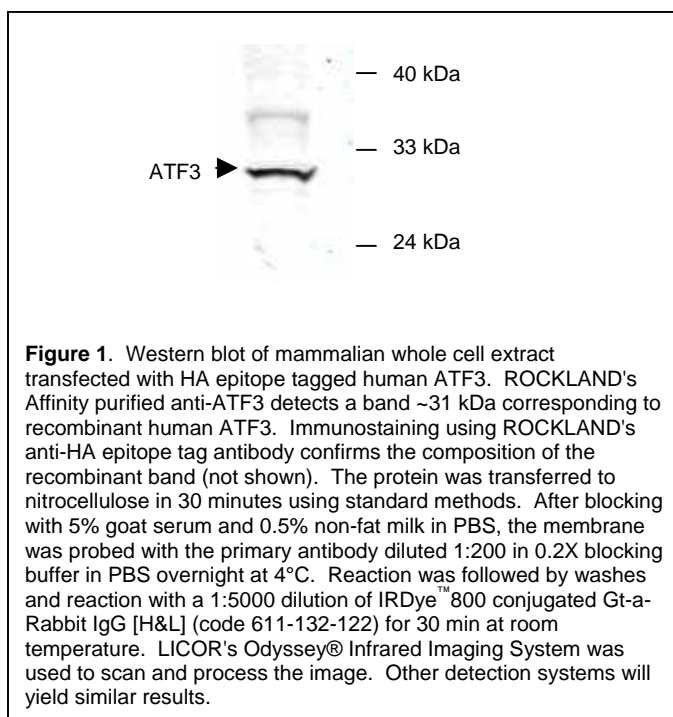
**Buffer:** 0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2

**Stabilizer:** None

**Preservative:** 0.01% (w/v) Sodium Azide

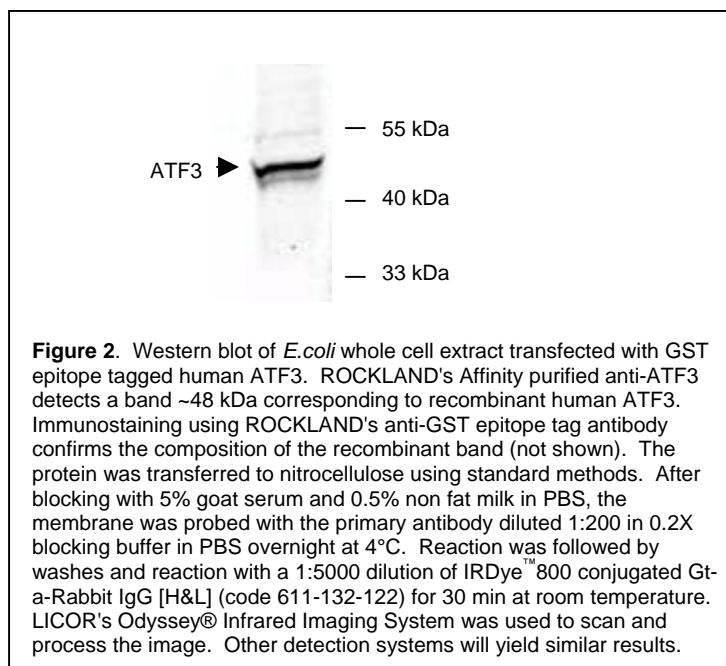
**Storage Conditions:** Store vial at -20° C. For extended storage aliquot contents and freeze at -20° C or below. Avoid cycles of freezing and thawing. Dilute only prior to immediate use. Expiration date is one (1) year from date of restoration.

**Background Information:** ATF3, or Activating Transcription Factor 3, is a member of mammalian activation TF/CREB protein family of transcription factors. ATF3 binds the cAMP response element (*cre*) (consensus: 5'-gtgacgt[ac][ag]-3'), a sequence present in many viral and cellular promoters. However, ATF3 represses rather than activates transcription from promoters with ATF sites stabilizing inhibitory co-factors at the promoter. Alternate splicing forms of ATF3, called ATF3 delta Zip, lack the leucine zipper domain and do not bind DNA. ATF3 delta Zip stimulates transcription, presumably by sequestering inhibitory co-factors away from the promoter. Human ATF3 (SwissProt 18847) is a 20575 Da protein composed of 181 amino acids.



**Application Note(s):** Affinity purified anti-ATF3 has been tested by ELISA and western blotting against recombinant forms of the protein. Although not tested, this antibody is likely function in most immunoassays including immunofluorescence microscopy, immunohistochemistry.

**Recommended Dilutions:** This product was assayed by immunoblot and was found to be reactive against recombinant ATF3 present in transfected mammalian or *E.coli* whole cell extracts. For western blot a 1:200 dilution yields strong signal with relatively clean background staining. Use IRDYE800™ Conjugated Affinity Purified Anti-RABBIT IgG (H&L) (GOAT) Min X Bv Ch Gt GP Hs Hu Ms Rt & Sh Serum Proteins (code 611-132-122) as a secondary antibody for detection at a 1:5,000 dilution. LICOR's Odyssey® Infrared Imaging System was used to scan and process the image. For ELISA a 1:5,000 to 1:20,000 dilution gave strong signal against the immunizing peptide. Similar dilutions should generate sufficient ELISA signal against native or recombinant ATF3 protein. The researcher should determine optimal titers for other applications.



**Purity and Specificity:** This affinity-purified antibody is directed against human ATF3 and is useful in determining its presence in various assays including ELISA and western blotting. This polyclonal antibody recognizes over-expressed ATF3 protein found in various expression systems. Reactivity is observed against human ATF3. Cross reactivity with ATF3 from other mammalian sources has not been tested.

#### Related Product(s):

- #600-401-384 Affinity Purified anti-HA EPITOPE TAG (Rabbit)
- #600-101-200 Affinity Purified anti-GST EPITOPE TAG (Rabbit)
- #200-301-174 Protein A Purified Mouse MAb Anti-Human p53
- #611-703-127 HRP Anti-Rabbit IgG [H&L] MX10 (DONKEY)
- #611-132-122 IRDye800 Anti-Rabbit IgG [H&L] MX10 (GOAT)

**Immunogen:** This antibody was produced from a synthetic peptide corresponding to aa 113-130 of human ATF3.

#### Amino Acid Sequence:

60	MMLQHPGQVS	ASEVSASAIV	PCLSPPGSLV	FEDFANLTPF	VKEELRFAIQ	NKHLCHRMSS
120	ALESVTVSDR	PLGVSITKAE	VAPEEDERKK	RRRERNKIAA	AKCRNKKKEK	TECLQKESEK
180	LESVNAELKA	QIEELKNEKQ	HLIYMLNLHR	PTCIVRAQNG	RTPEDERNLF	IQQIKEGTLQ
181	S					

#### Related Link(s):

ATF3 database cross references information [http://www.infobiogen.fr/services/chromcancer/Genes\\_gc/GC\\_ATF3.html](http://www.infobiogen.fr/services/chromcancer/Genes_gc/GC_ATF3.html)

#### General References:

- Kool J, Hamdi M, Cornelissen-Steijger P, van der Eb AJ, Terleth C, van Dam H. (2003) Induction of ATF3 by ionizing radiation is mediated via a signaling pathway that includes ATM, Nibrin1, stress-induced MAPkinases and ATF-2. *Oncogene* 2003 Jul 3;22(27):4235-42.
- Fan F, Jin S, Amundson SA, Tong T, Fan W, Zhao H, Zhu X, Mazzacurati L, Li X, Petrik KL, Fornace AJ Jr, Rajasekaran B, Zhan Q. (2002) ATF3 induction following DNA damage is regulated by distinct signaling pathways and over-expression of ATF3 protein suppresses cells growth. *Oncogene* 2002 Oct 24;21(49):7488-96.
- T. Hai, C.D. Wolfgang, D.K. Marsee, A.E. Allen, and U. Sivaprasad. (1999) ATF3 and stress responses, *Gene Expression* 7:321-335.
- B.P.C. Chen, C.D. Wolfgang and T. Hai. (1996) Analysis of ATF3: a transcription factor induced by physiological stresses and modulated by gadd153/Chop10. *Mol. Cell. Biol.* 16:1157-1168.
- Chen,B.P.C.; Liang,G.; Whelan,J.; Hai,T. (1994) ATF3 and ATF3 delta Zip. Transcriptional repression versus activation by alternatively spliced isoforms. *J. Biol. Chem.* 269:15819.
- Hai,T.; Liu,F.; Coukos,W.J.; Green,M.R.; (1989) Transcription factor ATF cDNA clones: an extensive family of leucine zipper proteins able to selectively form DNA-binding heterodimers. *Genes Dev.* 3:2083.

**Note:** This product is for research use only and is not intended for therapeutic or diagnostic applications. Please contact a technical service representative for more information.