APC303Mu01 100μg
Active Activating Transcription Factor 3 (ATF3)
Organism Species: *Mus musculus (Mouse)*
Instruction manual

FOR RESEARCH USE ONLY
NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

12th Edition (Revised in Aug, 2016)

[PROPERTIES]

Source: Prokaryotic expression.
Host: *E. coli*
Residues: Met1~Ser181
Tags: N-terminal His and GST Tag
Purity: >90%
Endotoxin Level: <1.0EU per 1μg (determined by the LAL method).
Buffer Formulation: PBS, pH7.4, containing 0.01% SKL, 5%Trehalose .
Original Concentration: 200μg/mL
Applications: Cell culture; Activity Assays.
(May be suitable for use in other assays to be determined by the end user.)
Predicted isoelectric point: 8.8
Predicted Molecular Mass: 50.7kDa
Accurate Molecular Mass: 55&48&42kDa as determined by SDS-PAGE reducing conditions.
Phenomenon explanation:
The possible reasons that the actual band size differs from the predicted are as follows:
1. Splice variants: Alternative splicing may create different sized proteins from the same gene.
2. Relative charge: The composition of amino acids may affects the charge of the protein.
3. Post-translational modification: Phosphorylation, glycosylation, methylation etc.
4. Post-translation cleavage: Many proteins are synthesized as pro-proteins, and then cleaved to give the active form.

5. Polymerization of the target protein: Dimerization, multimerization etc.

[USAGE]

Reconstitute in 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not vortex.

[STORAGE AND STABILITY]

Storage: Avoid repeated freeze/thaw cycles.

Store at 2-8°C for one month.

Aliquot and store at -80°C for 12 months.

Stability Test: The thermal stability is described by the loss rate. The loss rate was determined by accelerated thermal degradation test, that is, incubate the protein at 37°C for 48h, and no obvious degradation and precipitation were observed. The loss rate is less than 5% within the expiration date under appropriate storage condition.

[SEQUENCE]

MMLQHPGQVS ASEVSATAIV PCLSPPGSLV FEDFANLTPF VKEELRFAIQ
NKHLCHRMSS ALESVTVNNR PLEMSVTKSE AAPEEDERKR RRRERNKIAA
AKCRNKKKEK TECLQKESEK LESVNAELKA QIEELKNEKQ HLIYMLNLHR
PTCIVRAQNG RTPEDERNLF IQQIKEGTLQ S

[ACTIVITY]

Activating transcription factor 3 (ATF3) is a stress-induced transcription factor that plays vital roles in modulating metabolism, immunity and oncogenesis. ATF3 acts as a hub of the cellular adaptive-response network. Multiple extracellular signals, such as endoplasmic reticulum (ER) stress, cytokines, chemokines, and LPS, are connected to ATF3 induction. Proto-oncogene c-Fos can bind to ATF3 to regulate signal transduction, cell proliferation and differentiation. Thus a functional ELISA assay was conducted to detect the interaction of recombinant mouse ATF3 and recombinant human FOS. Briefly, ATF3 was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 μl were then transferred to FOS-coated microtiter wells and incubated for 1h at 37℃.

Wells were washed with PBST and incubated for 1h with anti-ATF3 pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody for 1h at 37℃, wells were aspirated and washed 5 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37℃. Finally, add 50 μL stop solution to the wells and read at 450/630nm immediately. The binding activity of recombinant mouse ATF3 and recombinant human FOS was shown in Figure 1, the EC50 for this effect is 0.13 ug/mL.

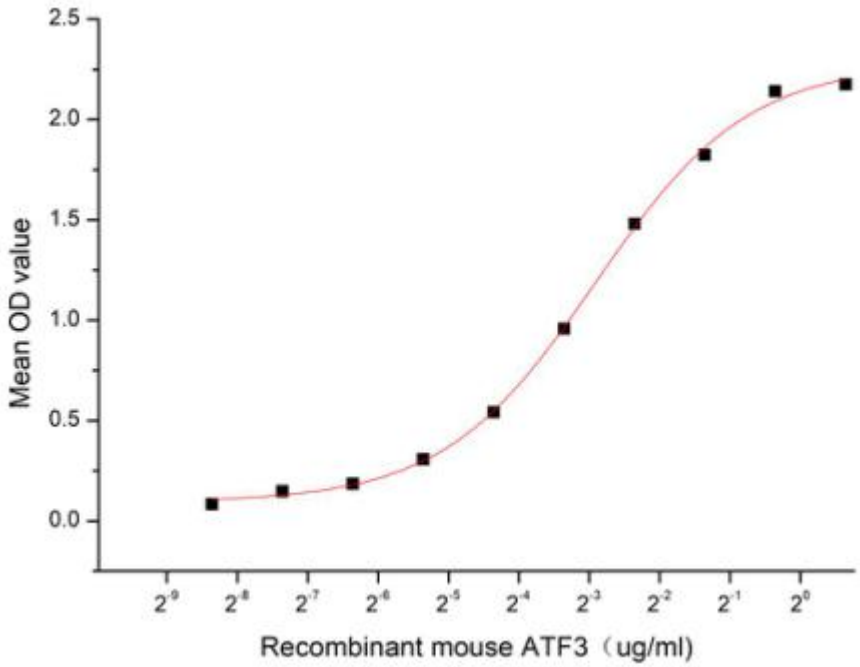

Figure 1. The binding activity of recombinant mouse ATF3 and recombinant human FOS

[IDENTIFICATION]

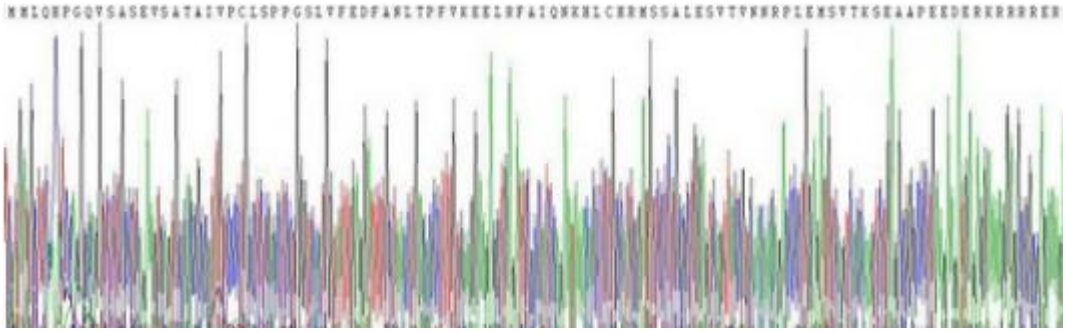

Figure 2. Gene Sequencing (extract)

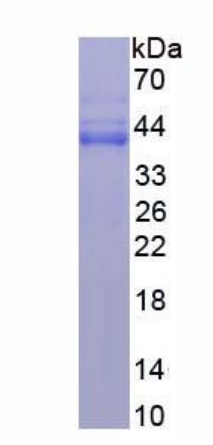

Figure 3. SDS-PAGE

Sample: Active recombinant ATF3, Mouse

[IMPORTANT NOTE]

The kit is designed for research use only, we will not be responsible for any issue if the kit was used in clinical diagnostic or any other procedures.