

c-Fos Antibody

✓ 100 µl
(10 western blots)

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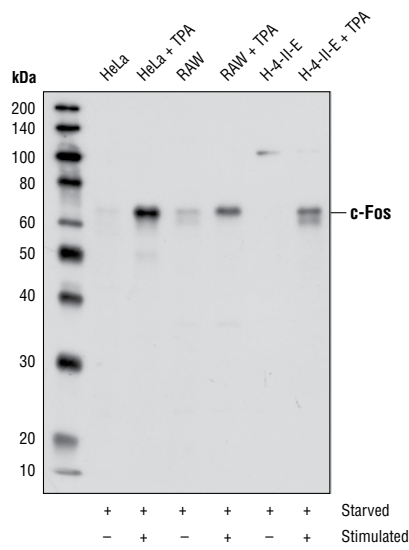
This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W Endogenous	H, M, R	62 kDa	Rabbit**

Background: The Fos family of nuclear oncogenes includes c-Fos, FosB, Fos-related antigen 1 (FRA1) and Fos-related antigen 2 (FRA2) (1). While most Fos proteins exist as a single isoform, the FosB protein exists as two isoforms: full-length FosB and a shorter form FosB2 (Δ FosB) that lacks the carboxy-terminal 101 amino acids (1,2). The expression of Fos proteins is rapidly and transiently induced by a variety of extracellular stimuli, including growth factors, cytokines, neurotransmitters, polypeptide hormones and stress. Fos proteins dimerize with Jun proteins (c-Jun, JunB and JunD) to form Activator Protein-1 (AP-1), a transcription factor that binds to TRE/AP-1 elements and activates transcription. Fos and Jun proteins contain the leucine-zipper motif that mediates dimerization and an adjacent basic domain that binds to DNA. The various Fos/Jun heterodimers differ in their ability to transactivate AP-1 dependent genes. In addition to increased expression, phosphorylation of Fos proteins by ERK kinases in response to extracellular stimuli may further increase transcriptional activity (4-6). Phosphorylation of c-Fos on serine 32 and threonine 232 by ERK-5 increases protein stability and nuclear localization (5). Phosphorylation of FRA1 on serines 252 and 265 by ERK-1/2 increases protein stability and leads to over-expression of FRA1 in cancer cells (6). Expression of FosB and c-Fos in quiescent fibroblasts after growth factor stimulation is immediate, but very short-lived, with protein levels dissipating after several hours (7). However, FRA1 and FRA2 expression persists longer and appreciable levels can be detected in asynchronously growing cells (8). Deregulated expression of c-Fos, FosB, or FRA2 can result in neoplastic cellular transformation; however, FosB2 lacks the ability to transform cells (2,3).

Specificity/Sensitivity: c-Fos Antibody detects endogenous levels of total c-Fos protein. The antibody does not cross-react with other Fos proteins, including FosB, FRA1 and FRA2.

Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic peptide (KLH-coupled) corresponding to amino acids near the carboxy terminus of human c-Fos protein. Antibodies are purified by protein A and peptide affinity chromatography.



Western blot analysis of extracts from HeLa, RAW, and H-4-IIE cells serum-starved overnight and TPA-stimulated for 4 hours using c-Fos Antibody.

Background References:

- (1) Tulchinsky, E. (2000) *Histol. Histopathol.* 15, 921-928.
- (2) Dobrzanski, P. et al. (1991) *Mol. Cell. Biol.* 11, 5470-5478.
- (3) Nakabeppu, Y. and Nathans, D. (1991) *Cell* 64, 751-759.
- (4) Rosenberger, S.F. et al. (1999) *J. Biol. Chem.* 274, 1124-1130.
- (5) Sasaki, T. et al. (2006) *Mol. Cell* 24, 63-75.
- (6) Basbous, J. et al. (2007) *Mol. Cell. Biol.* 27, 3936-3950.
- (7) Kovary, K. and Bravo, R. (1991) *Mol. Cell. Biol.* 11, 2451-2459.
- (8) Kovary, K. and Bravo, R. (1992) *Mol. Cell. Biol.* 12, 5015-5023

Entrez-Gene ID #2353
Swiss-Prot Acc. #P01100

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

*Species cross-reactivity is determined by western blot.

**Anti-rabbit secondary antibodies must be used to detect this antibody.

Recommended Antibody Dilutions:

Western Blotting 1:1000

For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.

IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.