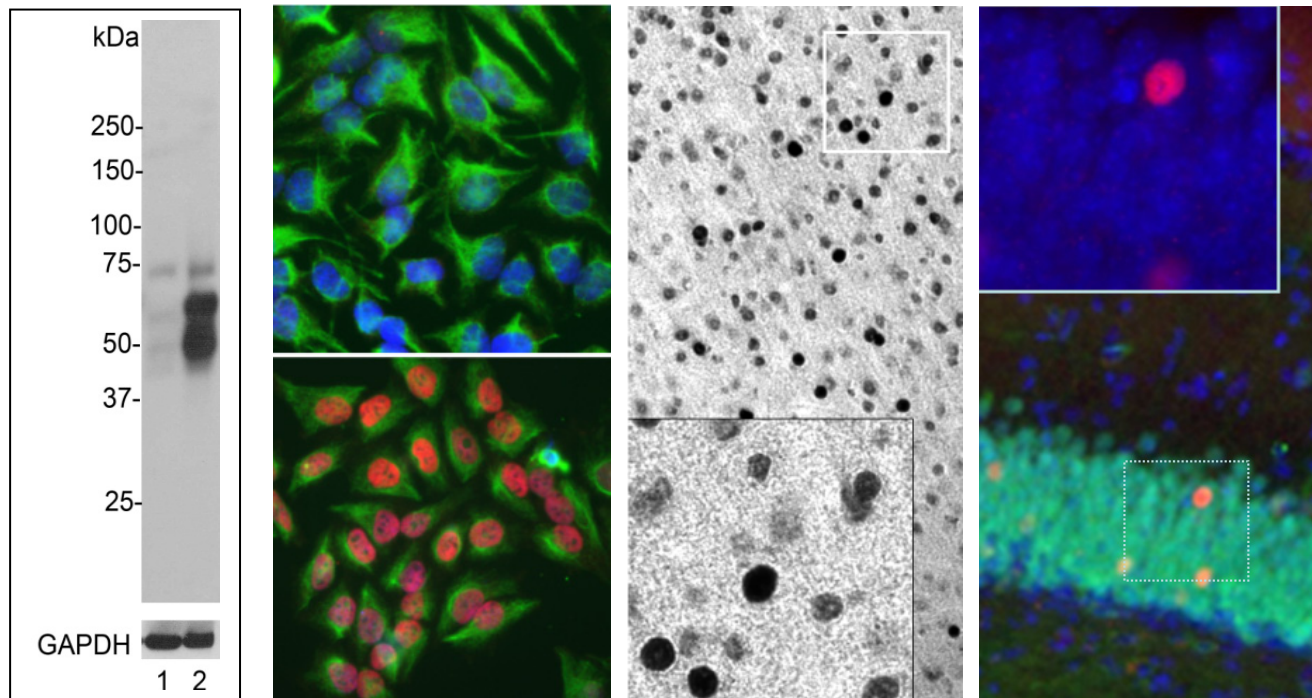


Catalog # RPCA-c-Fos-AP: Rabbit Polyclonal Antibody to c-Fos, Affinity Purified

The Immunogen: c-Fos is a member of Fos family of transcription factors and is a cellular counterpart of the retroviral oncogene: v-Fos. Other members of Fos family are FosB, Fra-1 and Fra-2. Fos proteins associate with Jun proteins, but also with other basic leucine-zipper (bZIP) proteins to create a variety of AP-1 (activator protein-1) complexes (1). Dimeric complex of AP-1 transcription factor regulate major physiological processes such as cell proliferation, differentiation, neoplastic transformation, apoptosis, and response to stress. c-Fos and c-Jun are the best-studied AP-1 components. They share a number of homologous domains, including adjacent basic leucine zipper motifs, necessary for binding to DNA and dimerization, respectively. c-Fos and c-Jun-containing AP-1 dimers activate transcription by direct contacts with coactivators, such as the CREB-binding protein (CBP) (3), and constituents of the basal transcription machinery, such as the TATA-binding protein (TBP) (4). c-Fos is expressed constitutively in certain tissues. However, they are considered immediate-early genes because their expression is usually low but rapidly and transiently inducible in response to a wide array of stimuli including serum, growth factors, tumor promoters, cytokines, and UV radiation to allow cells to adapt to environmental changes. It plays an important role in many cellular functions and has been found to be overexpressed in a variety of cancers. c-Fos is subjected to different modifications: phosphorylation activates c-Fos, whereas sumoylation of c-Fos inhibits the AP-1 transcriptional activity (5,6). Several lines of data demonstrate that expression of c-Fos by individual neurons can be used as a marker of cell activation, due to association of c-Fos expression with neurons fire action potentials (7,8,9,10). RPCA-c-Fos-AP was generated against full length human recombinant c-Fos protein expressed in and purified from *E. coli*. The HGNC name for this protein is FOS.



Left: Western blot analysis of c-Fos expression in HeLa cells with RPCA-c-Fos-AP. Lane 1: HeLa cells were serum-starved for 36 hours. Lane 2: Serum-starved HeLa cells were stimulated with 20% fetal bovine serum (FBS) for 2 hours. RPCA-c-Fos-AP recognizes bands with apparent molecular weight of 50-65 kDa, representing multiple forms of the c-Fos protein. These bands appear in serum stimulated cells and are absent in serum-starved HeLa cells (top panel). The same blot was stripped and probed with EnCor monoclonal antibody against GAPDH, **MCA-1D4**, used as loading control. **Middle Left:** RPCA-c-Fos-AP staining (red) in HeLa cells, which were treated with serum-starvation for 36 hours, followed by 2 hours, 20% FBS stimulation (bottom panel), or followed by PBS treatment (top panel). Red c-Fos staining only localizes in the nuclei of stimulated cells, but not

in un-stimulated cells. Counter-stained is EnCor's chicken polyclonal antibody against vimentin: **CPCA-Vim** (green). Blue shows DAPI staining of nucleus. **Middle Right:** Mouse brain cortical section (45 μ M; fixed by transcardial perfusion with 4% paraformaldehyde) labeled with RPCA-c-Fos-AP using a standard HRP-DAB staining technique. Cells expressing c-Fos show dark color. **Right:** Mouse brain section across hippocampus labeled with RPCA-c-Fos-AP (red) and our anti Fox3/NeuN (**MCA-1B7**) antibody (green) using immunofluorescent microscopy. Neurons positive for c-Fos and Fox3/NeuN appear to be yellow. Inset shows an enlarged image of RPCA-c-Fos-AP staining. Nuclei are labeled with Dapi (blue). For more images of RPCA-c-Fos-AP and EnCor's monoclonal antibody to c-Fos: [MCA-2H2](#), follow <http://encorbio.com/Data/cFosabpics.html>.

Antibody characteristics: Antibody was raised in rabbit against full length human recombinant protein expressed in and purified from *E. coli*. The antibody is affinity purified and diluted in PBS. The antibody is known to work on human and rodent cells and tissues. Since c-Fos is highly conserved, it is likely that the antibody is effective on other species as well.

Suggestions for use: The antibody solution can be used at dilutions of at least 1:2,000 in immunofluorescence experiments. In western blotting using chemiluminescence it can be used at dilutions of 1:2,000. Antibody preparation contains 5 mM sodium azide preservative (Link to <http://www.encorbio.com/MSDS/Azide.pdf> for Material Safety Data Sheet).

Storage Instructions: Shipped on ice. Please store at 4°C for regular uses. For long term storage, please leave frozen at -20°C and avoid freeze/thaw cycles.

Limitations: This product is for research use only and is not approved for use in humans or in clinical diagnosis.

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