#1042 Store at –20°C

FosB Blocking Peptide

☑ 100 µg
(100 sections)

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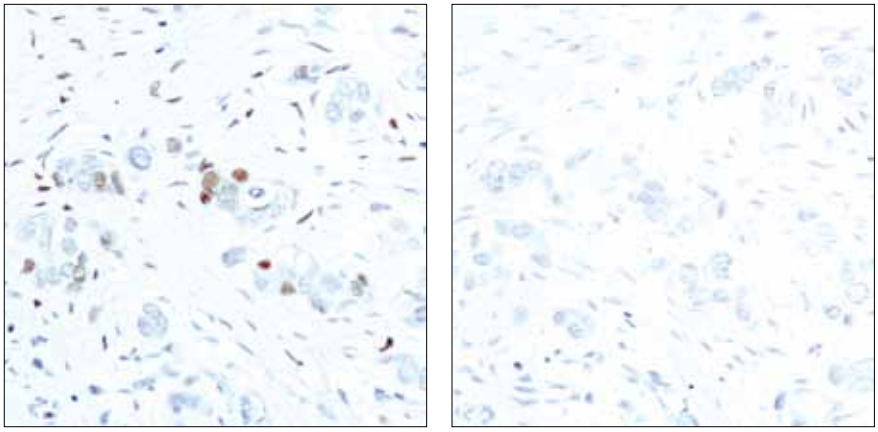

Immunohistochemical analysis of paraffin-embedded human breast carcinoma, using FosB (5G4) Rabbit mAb #2251 in the presence of control peptide (left) or FosB Blocking Peptide (right).

Storage: Supplied in 20 mM potassium phosphate (pH 7.0), 50 mM NaCl, 0.1 mM EDTA, 1 mg/ml BSA and 5% glycerol. Store at –20°C.

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 (Delta 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 overexpression 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).

Description: This peptide is used to block FosB (5G4) Rabbit mAb #2251 reactivity.

Quality Control: The quality of the peptide was evaluated by reversed-phase HPLC and by mass spectrometry. The peptide blocks FosB (5G4) Rabbit mAb #2251 by immunohistochemistry.

Applications: Use as a blocking reagent to evaluate the specificity of antibody reactivity in immunohistochemistry protocols.

Directions for Use: For immunohistochemistry, add twice the volume of peptide as volume of antibody used in 100 µl total volume. Incubate for a minimum of 30 minutes prior to adding the entire volume to the slide. Recommended antibody dilutions can be found on the relevant product data sheet.

Background References:

(1) Tulchinsky, E. (2000) *Histol. Histopathol.* 15, 921–928.

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(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.

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