SANTA CRUZ BIOTECHNOLOGY, INC.

BACH2 (L-17): sc-14704

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Members of the small Maf family (MafK, MafF, and MafG) are basic region leucine zipper (bZip) proteins that can function as transcriptional activators or repressors. They dimerize with other proteins and bind DNA to either represse or activate transcription depending on the dimer compositions. BACH1 and BACH2, heterodimerization partners of MafK, are members of a novel family of BTB/POZ-basic region leucine zipper (bzip) factors. BACH1 and BACH2 have significant similarity to each other in BTB domain and Cap "n" collar-type bZip domain but are otherwise divergent. BACH1 appears ubiquitous, whereas BACH2 is restricted to monocytes, neuronal cells and is abundantly expressed in the early stages of B-cell differentiation. BACH2, a 841 amino acid polypeptide, is an Nrf2-related transcription repressor and a tissue-specific partner of the Maf oncoprotein family. In culture cells, BACH2 is localized to the cytoplasm through its C-terminal cytoplasmic localization signal (CLS). Oxidative stressors aborted the CLS activity and induce nuclear accumulation of BACH2, which mediates nucleocytoplasmic communciation to couple oxidative stress and transcription repression in mammalian cells. BACH2 heterodimerizes with MAZR through its BTB/POZ domain to activate transcription. BACH2 also plays an important role in the regulation of B cell development.

REFERENCES

1. Oyake, T., et al. 1996. BACH proteins belong to a novel family of BTB-basic leucine zipper transcription factors that interact with MafK and regulate transcription through the NF-E2 site. Mol. Cell. Biol. 16: 6083-6095.
2. Hoshino, H., et al. 2000. Oxidative stress abolishes leptomycin B-sensitive nuclear export of transcription repressor BACH2 that counteracts activation of Maf recognition element. J. Biol. Chem. 275: 15370-15376.
3. Kanezaki, R., et al. 2000. Transcription factor BACH1 is recruited to the nucleus by its novel alternative spliced isoform. J. Biol. Chem. 276: 7278-7284.
4. Sasaki, S., et al. 2000. Cloning and expression of human B cell-specific transcription factor BACH2 mapped to chromosome 6q15. Oncogene 19: 3739-3749.
5. Kobayashi, A., et al. 2000. A combinatorial code for gene expression generated by transcription factor BACH2 and MAZR (MAZ-related factor) through the BTB/POZ domain. Mol. Cell. Biol. 20: 1733-1746.

CHROMOSOMAL LOCATION

Genetic locus: BACH2 (human) mapping to 6q15; Bach2 (mouse) mapping to 4 A5.

SOURCE

BACH2 (L-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Bach2 of mouse origin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-14704 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-14704 X, 200 µg/0.1 ml.

APPLICATIONS

BACH2 (L-17) is recommended for detection of BACH2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

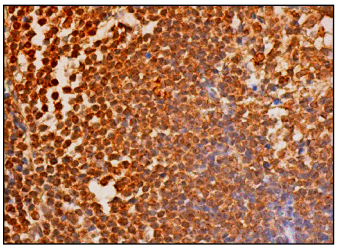
BACH2 (L-17) is also recommended for detection of BACH2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for BACH2 siRNA (h): sc-37706, BACH2 siRNA (m): sc-37707, BACH2 shRNA Plasmid (h): sc-37706-SH, BACH2 shRNA Plasmid (m): sc-37707-SH, BACH2 shRNA (h) Lentiviral Particles: sc-37706-V and BACH2 shRNA (m) Lentiviral Particles: sc-37707-V.

BACH2 (L-17) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of BACH2: 110 kDa.

DATA



BACH2 (L-17): sc-14704. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lymph node tissue showing nuclear and cytoplasmic staining of cells in germinal centers and cells in non-germinal centers.

SELECT PRODUCT CITATIONS

1. Shim, K.S., et al. 2006. BACH2 is involved in neuronal differentiation of N1E-115 neuroblastoma cells. Exp. Cell Res. 312: 2264-2278.
2. De Abrew, K.N., et al. 2011. Regulation of Bach2 by the aryl hydrocarbon receptor as a mechanism for suppression of B-cell differentiation by 2,3,7,8-tetrachlorodibenzo-p-dioxin. Toxicol. Appl. Pharmacol. 252: 150-158.

RESEARCH USE

For research use only, not for use in diagnostic procedures.