SANTA CRUZ BIOTECHNOLOGY, INC.

EBF (C-8): sc-137065

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

B lymphocyte maturation is an intricate process that requires a distinct set of transcription factors with respect to the stage of cell differentiation and cell lineage. Among the transcriptional regulators involved in the early stages of B cell development, early B cell factor (EBF), also designated olfactory neuronal transcription factor 1 (OLF1), targets promoter elements for B lymphoid kinase (Blk) and genes encoding portions of the early stage B cell receptors (BCR), which are necessary for initiation of Ig light chain gene recombination and Src kinase (Blk) signaling. EBF is a basic helix-loop-helix (bHLH) homodimeric transcription factor composed of two subunits that interact with the core DNA sequence, CCCNNGGG, through a DNA recognition domain containing a zinc-coordination motif. Promoter elements to certain neuron-specific genes encoding olfactory-related proteins have been shown to contain EBF binding sites.

SOURCE

EBF (C-8) is a mouse monoclonal antibody raised against amino acids 1-300 mapping at the N-terminus of EBF of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

EBF (C-8) is available conjugated to agarose (sc-137065 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-137065 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-137065 PE), fluorescein (sc-137065 FITC), Alexa Fluor® 488 (sc-137065 AF488), Alexa Fluor® 546 (sc-137065 AF546), Alexa Fluor® 594 (sc-137065 AF594) or Alexa Fluor® 647 (sc-137065 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-137065 AF680) or Alexa Fluor® 790 (sc-137065 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

EBF (C-8) is recommended for detection of EBF1, EBF2, EBF3 and EBF4 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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).

EBF (C-8) is also recommended for detection of EBF1, EBF2, EBF3 and EBF4 in additional species, including equine, canine, bovine and porcine.

Molecular Weight of EBF: 80 kDa.

Positive Controls: Ramos nuclear extract: sc-2153, IMR-32 cell lysate: sc-2409 or EBF1 (h4): 293T Lysate: sc-177162.

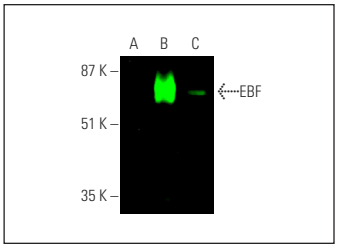
STORAGE

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

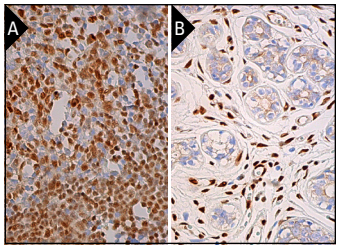
RESEARCH USE

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

DATA



EBF (C-8): sc-137065. Near-infrared western blot analysis of EBF expression in non-transfected 293T: sc-117752 (**A**), human EBF1 transfected 293T: sc-177162 (**B**) and IMR-32 (**C**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.



EBF (C-8): sc-137065. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lymph node tissue showing nuclear staining of cells in germinal center and cells in non-germinal center (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human breast tissue showing nuclear staining of interstitial cells (**B**).

SELECT PRODUCT CITATIONS

1. Karczewski, K.J., et al. 2011. Cooperative transcription factor associations discovered using regulatory variation. Proc. Natl. Acad. Sci. USA 108: 13353-13358.
2. Onorati, M., et al. 2014. Molecular and functional definition of the developing human striatum. Nat. Neurosci. 17: 1804-1815.
3. Kurkewich, J.L., et al. 2017. The miR-23a-27a-24-2 microRNA cluster buffers transcription and signaling pathways during hematopoiesis. PLoS Genet. 13: e1006887.
4. Lei, J.J., et al. 2019. Long noncoding RNA CDKN2B-AS1 interacts with transcription factor Bcl11A to regulate progression of cerebral infarction through mediating MAP4K1 transcription. FASEB J. 33: 7037-7048.
5. Qiu, K., et al. 2020. Long intergenic noncoding RNA 00844 promotes apoptosis and represses proliferation of prostate cancer cells through upregulating GSTP1 by recruiting EBF1. J. Cell. Physiol. 235: 8472-8485.
6. Chen, S.J., et al. 2021. Targeting lysosomal cysteine protease cathepsin S reveals immunomodulatory therapeutic strategy for oxaliplatin-induced peripheral neuropathy. Theranostics 11: 4672-4687.
7. Khasnis, S., et al. 2022. Regulation of B cell receptor signalling by Epstein-Barr virus nuclear antigens. Biochem. J. 479: 2395-2417.
8. Galimberti, M., et al. 2024. Huntington's disease cellular phenotypes are rescued non-cell autonomously by healthy cells in mosaic telencephalic organoids. Nat. Commun. 15: 6534.
9. Viel, K.C.M.F., et al. 2024. Shared and distinct interactions of type 1 and type 2 Epstein-Barr nuclear antigen 2 with the human genome. BMC Genomics 25: 273.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.