

## EBF4 (S-24): sc-133529

### 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, EBF4 (early B-cell factor 4), also known as transcription factor COE4, is a 602 amino acid nuclear protein that binds the Olf1 site, the consensus sequence 5'-ATCCCNNGGAATT-3'. Like other members of the Olf-1/EBF (O/E) family of transcription factors, EBF4 may play an important role in B cell maturation and neural development. There are two isoforms of EBF4 that exist as a result of alternative splicing events. In regards to transcriptional activation of a reporter construct, all EBF4 isoforms are weaker than EBF, EBF2 and EBF3. By interacting with other O/E family members, EBF4 most likely forms homodimers or heterodimers to regulate gene expression.

### REFERENCES

1. Wang, M.M. and Reed, R.R. 1993. Molecular cloning of the olfactory neuronal transcription factor Olf-1 by genetic selection in yeast. *Nature*. 364: 121-126.
2. Hagman, J., Gutch, M.J., Lin, H. and Grosschedl, R. 1995. EBF contains a novel zinc coordination motif and multiple dimerization and transcriptional activation domains. *EMBO J*. 14: 2907-2916.
3. Lin, H. and Grosschedl, R. 1995. Failure of B-cell differentiation in mice lacking the transcription factor EBF. *Nature*. 376: 263-267.
4. Sigvardsson, M., O'Riordan, M. and Grosschedl, R. 1997. EBF and E47 collaborate to induce expression of the endogenous immunoglobulin surrogate light chain genes. *Immunity*. 7: 25-36.
5. Nagase, T., Kikuno, R., Ishikawa, K.I., Hirose, M. and Ohara, O. 2000. Prediction of the coding sequences of unidentified human genes. XVI. The complete sequences of 150 new cDNA clones from brain which code for large proteins in vitro. *DNA Res*. 7: 65-73.
6. Sigvardsson, M. 2000. Overlapping expression of early B-cell factor and basic helix-loop-helix proteins as a mechanism to dictate B-lineage-specific activity of the lambda5 promoter. *Mol. Cell. Biol*. 20: 3640-3654.
7. Wang, S.S., Betz, A.G. and Reed, R.R. 2002. Cloning of a novel Olf-1/EBF-like gene, O/E-4, by degenerate oligo-based direct selection. *Mol. Cell. Neurosci*. 20: 404-414.
8. Online Mendelian Inheritance in Man, OMIM™. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 609935. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

### CHROMOSOMAL LOCATION

Genetic locus: EBF4 (human) mapping to 20p13.

### 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.

### SOURCE

EBF4 (S-24) is an affinity purified rabbit polyclonal antibody raised against synthetic EBF4 peptide of human origin.

### PRODUCT

Each vial contains 50 µg IgG in 500 µl PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

### APPLICATIONS

EBF4 (S-24) is recommended for detection of EBF4 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for EBF4 siRNA (h): sc-77217, EBF4 shRNA Plasmid (h): sc-77217-SH and EBF4 shRNA (h) Lentiviral Particles: sc-77217-V.

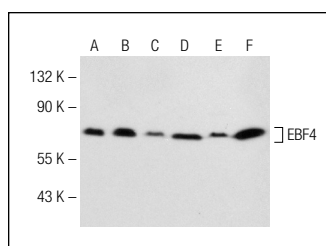
Molecular Weight of EBF4: 64 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, Daudi cell lysate: sc-2415 or U-698-M whole cell lysate.

### RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

### DATA



EBF4 (S-24): sc-133529. Western blot analysis of EBF4 expression in JM1 (A), U-698-M (B), Daudi (C), Jurkat (D) and SP2/0 (E) whole cell lysates and Jurkat nuclear extract (F).

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.