PRODUCT DATA SHEET

Product: Anti-LEF-1 (alternate exon), clone 1C3

Cat. No: **MC-880 (100 µg)**

Background:

Lymphoid Enhancer Factor-1 (LEF-1) and HMG 1/2-like DNA binding/bending protein are members of the LEF/TCF transcription factor family. There are four LEF/TCF family members in mammalian systems (LEF-1, TCF-1, TCF-3 and TCF-4), and orthologs to these factors have been identified in many different species. LEF/TCFs are downstream mediators of Wnt/Wingless signals. Wnt signaling drives cell polarity, cell fate and cell growth decisions in embryonic tissues and in post-natal tissues that continue to develop from mitotically active stem cell precursors. Misregulation of Wnt signaling is also implicated as a root cause of many different cancers, such as colon cancer, melanoma, breast cancer, prostate cancer and others.

Expression patterns: Normal patterns of LEF-1 expression exhibit broad, but tissue specific patterns during development. Removal of the LEF-1 gene in mice causes loss of hair follicles, whisker follicles, mammary buds, tooth buds, structures in the CNS and a deficiency in B cell proliferation and survival. After birth, LEF-1 expression exhibits a more restricted pattern and can be detected in differentiating T and B lymphocytes, matrix cells of the hair follicle, breast epithelia, and testis. It is possible that LEF-1 is expressed at other sites in small populations of differentiating cells and LEF-1 expression is often detected in cancers linked to Wnt signaling.

To regulate transcription, LEF-1 and its highly related family members (TCFs) recognize a specific DNA recognition motif (5'-UCTTTGWW-3') via the HMG DNA binding/bending domain. Within this domain is a nine amino acid nuclear localization signal (NLS). LEF-1 has a context-dependent activation domain that is not conserved among the LEF/TCFs; this domain includes an alternatively spliced exon of 28 amino acids. All LEF/TCFs have a highly conserved b-catenin binding domain at the N-terminus. This domain recruits nuclear localized b-catenin to gene targets and allows the potent transcription activation domain of b-catenin to regulate Pol II transcription. It is the interaction and recruitment of b-catenin to gene targets that mediates Wnt signals in the nucleus.

Specificity:

Recognizes LEF-1.

Species Reactivity:

Human, others not tested.

Ig Isotype:

IgG1

Immunogen:

Full-length protein.

Format:

Anti-human LEF-1 monoclonal antibody provided as 0.2 µm sterile filtered solution in PBS with 0.08% sodium azide. Available in a concentration of 100 µg/100 µl.

Storage and Stability:

Stable for 1 year when stored at -20°C. Aliquot to avoid freeze/thaw cycles.

Applications and Suggested Dilutions:

- Western blot: Use at 1-5 µg/ml.

The optimal dilution for a specific application should be determined by the researcher.

Limitations:

For *in vitro* research use only. Not for use in diagnostics or in humans.

Warranty:

No warranties, expressed or implied, are made regarding the use of this product. KAMIYA BIOMEDICAL COMPANY is not liable for any damage, personal injury, or economic loss caused by this product.