SANTA CRUZ BIOTECHNOLOGY, INC.

DREAM (h4): 293T Lysate: sc-111016

BACKGROUND

DREAM (for DRE-antagonist modulator) is a Ca^{2+}-regulated transcriptional repressor that specifically binds to the downstream regulatory elements (DRE). DRE is a regulatory sequence that silences basal transcription and is localized to the promoter region of the gene encoding human prodynorphin, an opioid peptide involved in memory acquisition and pain. DREAM forms functional homotetramers that are required for the interaction with the DRE. This association is highly influenced by calcium, as an increase in Ca^{2+} directly inhibits DREAM binding and thereby blocks the repressor activity of DREAM. DREAM transcripts are detected in brain, thymus and thyroid gland, and it is expressed as a nuclear protein. DREAM has been shown to inhibit transcription of other proteins containing DRE-like motifs, including the gene encoding for the AP-1 transcription factor c-Fos, suggesting that DREAM may influence a wide variety of cellular genes.

REFERENCES

1. Morgan, J.I. and Curran, T. 1986. Role of ion flux in the control of c-Fos expression. Nature 322: 552-555.
2. Weisskopf, M.G., Zalutsky, R.A. and Nicoll, R.A. 1993. The opioid peptide Dynorphin mediates heterosynaptic depression of hippocampal mossy fibre synapses and modulates long-term potentiation. Nature 365: 188.
3. Hurd, Y.L. 1996. Differential messenger RNA expression of prodynorphin and Proenkephalin in the human brain. Neuroscience 72: 767-783.
4. Carrión, A.M., Mellström, B. and Naranjo, J.R. 1998. Protein kinase A-dependent derepression of the human prodynorphin gene via differential binding to an intragenic silencer element. Mol. Cell. Biol. 18: 6921-6929.
5. Mandel, G. and Goodman, R.H. 1999. Cell signaling. DREAM on without calcium. Nature 398: 29-30.
6. Carrión, A.M., Link, W.A., Ledo, F., Mellström, B. and Naranjo, J.R. 1999. DREAM is a Ca^{2+}-regulated transcriptional repressor. Nature 398: 80-84.

CHROMOSOMAL LOCATION

Genetic locus: KCNIP3 (human) mapping to 2q21.1.

PRODUCT

DREAM (h4): 293T Lysate represents a lysate of human DREAM transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

DREAM (h4): 293T Lysate is suitable as a Western Blotting positive control for human reactive DREAM antibodies.

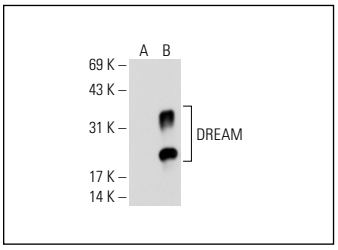
Control 293 Lysate: sc-110760 is available as a Western Blotting negative control lysate derived from non-tranfected 293 cells.

DREAM (A-9): sc-166916 is recommended as a positive control antibody for Western Blot analysis of enhanced human DREAM expression in DREAM transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



DREAM (A-9): sc-166916. Western blot analysis of DREAM expression in non-transfected 293: sc-110760 (**A**) and human DREAM transfected 293T: sc-111016 (**B**) whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

RESEARCH USE

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

PROTOCOLS

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