

CEM15 (m): 293T Lysate: sc-119161

BACKGROUND

APOBEC3G is a member of a family of enzymes that have potent DNA mutator activity. APOBEC3G deaminates deoxycytosine to deoxyuracil in the minus strand of HIV-1 DNA, resulting in G to A hypermutation in the plus strand of DNA. Thus, APOBEC3G provides a mechanism for innate immunity to retroviruses and also likely contributes to sequence variation observed in many viruses. Viral infectivity factor (Vif) imparts APOBEC3G resistance to HIV through impaired translation of APOBEC3G mRNA and accelerated posttranslational degradation of APOBEC3G by the 26S Proteasome. Interestingly, HIV-1 Vif cannot form a complex with APOBEC3G of mouse origin as it does with the human protein, and thus mouse APOBEC3G functions as a potent inhibitor of wild type HIV-1 replication, where human APOBEC3G is only able to inhibit Vif-deficient HIV-1 replication. This implies that induction of APOBEC3G activity or a method of blocking its interaction with Vif may provide a method for therapeutic intervention. CEM15 is a 429 amino acid mouse protein that is thought to function as an ortholog of human APOBEC3G.

REFERENCES

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2. Mangeat, B., et al. 2003. Broad antiretroviral defence by human APOBEC3G through lethal editing of nascent reverse transcripts. *Nature* 424: 99-103.
3. Shindo, K., et al. 2003. The enzymatic activity of CEM15/APOBEC3G is essential for the regulation of the infectivity of HIV-1 virion but not a sole determinant of its antiviral activity. *J. Biol. Chem.* 278: 44412-44416.
4. Harris, R.S., et al. 2003. DNA deamination mediates innate immunity to retroviral infection. *Cell* 113: 803-809.
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6. Mariani, R., et al. 2003. Species-specific exclusion of APOBEC3G from HIV-1 virions by Vif. *Cell* 114: 21-31.
7. Kao, S., et al. 2003. The human immunodeficiency virus type 1 Vif protein reduces intracellular expression and inhibits packaging of APOBEC3G (CEM15), a cellular inhibitor of virus infectivity. *J. Virol.* 77: 11398-11407.
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CHROMOSOMAL LOCATION

Genetic locus: Apobec3 (mouse) mapping to 15 E1.

PRODUCT

CEM15 (m): 293T Lysate represents a lysate of mouse CEM15 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

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.

APPLICATIONS

CEM15 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive CEM15 antibodies. Recommended use: 10-20 µl per lane.

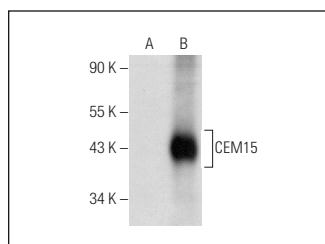
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

CEM15 (B-2): sc-390254 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse CEM15 expression in CEM15 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



CEM15 (B-2): sc-390254. Western blot analysis of CEM15 expression in non-transfected: sc-117752 (A) and mouse CEM15 transfected: sc-119161 (B) 293T whole cell lysates.

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.