

CMBL (C-5): sc-374248



The Power to Question

BACKGROUND

CMBL (carboxymethylenebutenolidase homolog) is a 245 amino acid cytosolic protein and cysteine hydrolase that preferentially cleaves cyclic esters. A member of the dienelactone hydrolase family, CMBL is the human homolog of *Pseudomonas* dienelactone hydrolase, a protein that participates in the bacterial halocatechol degradation pathway. CMBL is ubiquitously expressed with high expression in liver, colon, kidney and small intestine, where it acts as a bioactivating enzyme for a prodrug type angiotensin II type 1 receptor antagonist known as olmesartan medoxomil. CMBL is inhibited by p-chloro-mercuri-benzoate (PCMB) and is encoded by a gene that maps to human chromosome 5p15.2. Chromosome 5 contains 181 million base pairs and comprises nearly 6% of the human genome. Deletion of the p arm of chromosome 5 leads to Cri du chat syndrome, while deletion of the q arm, or of chromosome 5 altogether, is common in therapy-related acute myelogenous leukemias and myelodysplastic syndrome.

REFERENCES

1. Nussberger, J., et al. 2004. Antagonizing the Angiotensin II subtype 1 receptor: a focus on olmesartan medoxomil. *Clin. Ther.* 26: A12-A20.
2. Mire, D.E., et al. 2005. A review of the structural and functional features of olmesartan medoxomil, an angiotensin receptor blocker. *J. Cardiovasc. Pharmacol.* 46: 585-593.
3. Vera-Carbonell, A., et al. 2009. Characterization of a *de novo* complex chromosomal rearrangement in a patient with Cri-du-chat and trisomy 5p syndromes. *Am. J. Med. Genet. A* 149A: 2513-2521.
4. Ravandi, F., et al. 2009. Superior outcome with hypomethylating therapy in patients with acute myeloid leukemia and high-risk myelodysplastic syndrome and chromosome 5 and 7 abnormalities. *Cancer* 115: 5746-5751.
5. Sazawal, S., et al. 2009. Haematological & molecular profile of acute myelogenous leukaemia in India. *Indian J. Med. Res.* 129: 256-261.
6. Ishizuka, T., et al. 2010. Human carboxymethylenebutenolidase as a bioactivating hydrolase of olmesartan medoxomil in liver and intestine. *J. Biol. Chem.* 285: 11892-11902.
7. Online Mendelian Inheritance in Man, OMIM™. 2010. Johns Hopkins University, Baltimore, MD. MIM Number: 613379. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: CMBL (human) mapping to 5p15.2.

SOURCE

CMBL (C-5) is a mouse monoclonal antibody raised against amino acids 1-245 representing full length CMBL of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

CMBL (C-5) is recommended for detection of CMBL of 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).

Suitable for use as control antibody for CMBL siRNA (h): sc-92035, CMBL shRNA Plasmid (h): sc-92035-SH and CMBL shRNA (h) Lentiviral Particles: sc-92035-V.

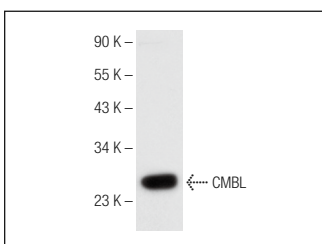
Molecular Weight of CMBL: 28 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

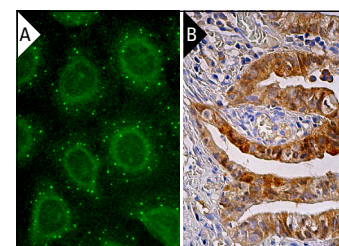
RECOMMENDED SUPPORT REAGENTS

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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



CMBL (C-5): sc-374248. Western blot analysis of CMBL expression in Hep G2 whole cell lysate.



CMBL (C-5): sc-374248. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human gall bladder tissue showing cytoplasmic staining of glandular cells (B).

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.