SANTA CRUZ BIOTECHNOLOGY, INC.

BAMBI siRNA (m): sc-60244

BACKGROUND

BAMBI (BMP and activin membrane-bound inhibitor homolog), also designated non-metastatic gene A (NMA) protein, is a membrane-spanning glycoprotein that acts as a negative regulator of TGFβ signaling during development. The BAMBI family of proteins are related to the type I TGFβ receptor family, however, BAMBI is a pseudoreceptor that lacks an intracellular serine/threonine kinase domain. BAMBI transcription regulation is under the influence of β-catenin, BMP, Smad3 and Smad4. BAMBI expression can increase in colorectal and hepatocellular carcinomas relative to non-cancerous tissues. BAMBI is expressed at high levels during odontogenesis. It is coexpressed with BMP-4 during early *Xenopus* embryogenesis and can be detected in poorly metastatic human melanoma cell lines.

REFERENCES

1. Polushkin, B.V. 1968. On the significiance of mast cells in the calcification of tissues during calciphylaxis. Arkh. Patol. 30: 45-49.
2. Knight, C., et al. 2001. Cloning, characterization, and tissue expression pattern of mouse NMA/BAMBI during odontogenesis. J. Dent. Res. 80: 1895-1902.
3. Grotewold, L., et al. 2001. BAMBI is coexpressed with BMP-4 during mouse embryogenesis. Mech. Dev. 100: 327-330.
4. Loveland, K.L., et al. 2003. Expression of BAMBI is wide-spread in juvenile and adult rat tissues and is regulated in male germ cells. Endocrinology 144: 4180-4186.
5. Sekiya, T., et al. 2004. Identification of BMP and activin membrane-bound inhibitor (BAMBI), an inhibitor of transforming growth factor-β signaling, as a target of the β-catenin pathway in colorectal tumor cells. J. Biol. Chem. 279: 6840-6846.
6. Zuzarte-Luis, V., et al. 2004. A new role for BMP-5 during limb development acting through the synergic activation of Smad and MAPK pathways. Dev. Biol. 272: 39-52.
7. Sekiya, T., et al. 2004. Transcriptional regulation of the TGFβ pseudoreceptor BAMBI by TGFβ signaling. Biochem. Biophys. Res. Commun. 320: 680-684.

CHROMOSOMAL LOCATION

Genetic locus: Bambi (mouse) mapping to 18 A1.

PRODUCT

BAMBI siRNA (m) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see BAMBI shRNA Plasmid (m): sc-60244-SH and BAMBI shRNA (m) Lentiviral Particles: sc-60244-V as alternate gene silencing products.

For independent verification of BAMBI (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-60244A, sc-60244B and sc-60244C.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCL, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

BAMBI siRNA (m) is recommended for the inhibition of BAMBI expression in mouse cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor BAMBI gene expression knockdown using RT-PCR Primer: BAMBI (m)-PR: sc-60244-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

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.