SANTA CRUZ BIOTECHNOLOGY, INC.

BSPII (LFMb-25): sc-73630

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

BSPII (bone sialoprotein II), also known as IBSP (integrin-binding sialoprotein), BSP (bone sialoprotein), BNSP or SP-II, is a secreted acidic glycosylated, sulfated and phosphorylated protein that is synthesized by osteoblasts, osteocytes, osteoclasts, hypertrophic chondroctyes and other skeletal-associated cell types. BSPII is a major structural protein in bone matrix and makes up approximately 12% of the noncollagenous proteins in human bone. Noncollagenous proteins are believed to function in the regulation of bone mineralization. BSPII is capable of nucleating hydroxyapatite crystal formation and, therefore, is thought to play an important role in initial mineralization of bone, cementum and dentin. Belonging to the SIBLING family of proteins, BSPII contains an RGD sequence which recognizes the Vitronectin receptor Integrin αV and may participate in mediating cell attachment. In addition, BSPII is expressed in various cancers, including lung, thyroid, breast and prostate cancers.

CHROMOSOMAL LOCATION

Genetic locus: IBSP (human) mapping to 4q22.1; Ibsp (mouse) mapping to 5 E5.

SOURCE

BSPII (LFMb-25) is a mouse monoclonal antibody raised against amino acids 257-276 of BSPII of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

BSPII (LFMb-25) is available conjugated to agarose (sc-73630 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-73630 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-73630 PE), fluorescein (sc-73630 FITC), Alexa Fluor® 488 (sc-73630 AF488), Alexa Fluor® 546 (sc-73630 AF546), Alexa Fluor® 594 (sc-73630 AF594) or Alexa Fluor® 647 (sc-73630 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-73630 AF680) or Alexa Fluor® 790 (sc-73630 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

BSPII (LFMb-25) is recommended for detection BSPII of mouse, rat, human, monkey and bovine origin by Western Blotting (starting dilution 1:200, 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) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for BSPII siRNA (h): sc-105128, BSPII siRNA (m): sc-141764, BSPII shRNA Plasmid (h): sc-105128-SH, BSPII shRNA Plasmid (m): sc-141764-SH, BSPII shRNA (h) Lentiviral Particles: sc-105128-V and BSPII shRNA (m) Lentiviral Particles: sc-141764-V.

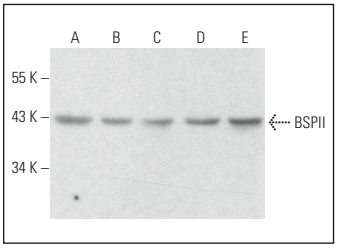
Molecular Weight of BSPII: 35 kDa.

Positive Controls: CCRF-CEM cell lysate: sc-2225, MDA-MB-435S whole cell lysate: sc-364184 or HOS cell lysate: sc-2275.

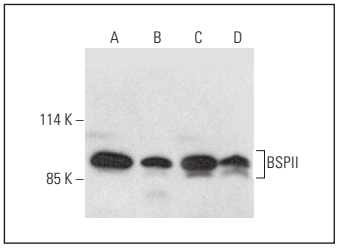
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



BSPII (LFMb-25): sc-73630. Western blot analysis of BSPII expression in CCRF-CEM (**A**), MDA-MB-435S (**B**), HOS (**C**), Saos-2 (**D**) and SCC-4 (**E**) whole cell lysates.



BSPII (LFMb-25) HRP: sc-73630 HRP. Direct western blot analysis of BSPII expression in HeLa (**A**), Saos-2 (**B**), MDA-MB-435S (**C**) and HOS (**D**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Kodonas, K., et al. 2012. Experimental formation of dentin-like structure in the root canal implant model using cryopreserved swine dental pulp progenitor cells. J. Endod. 38: 913-919.
2. Pesesse, L., et al. 2014. Bone sialoprotein as a potential key factor implicated in the pathophysiology of osteoarthritis. Osteoarthr. Cartil. 22: 547-556.
3. Koli, K., et al. 2015. Expression of matrix metalloproteinase (MMP)-20 and potential interaction with dentin sialophosphoprotein (DSPP) in human major salivary glands. J. Histochem. Cytochem. 63: 524-533.
4. Anunobi, C.C., et al. 2016. Expression of the SIBLINGs and their MMP partners in human benign and malignant prostate neoplasms. Oncotarget 7: 48038-48049.
5. Chen, L., et al. 2017. Anatomically-specific intratubular and interstitial biominerals in the human renal medullo-papillary complex. PLoS ONE 12: e0187103.
6. Cosme-Silva, L., et al. 2018. Biocompatibility and immunohistochemical evaluation of a new calcium silicate-based cement, Bio-C Pulpo. Int. Endod. J. 52: 689-700.
7. Hsieh, M.K., et al. 2019. Bone regeneration in Ds-Red pig calvarial defect using allogenic transplantation of EGFP-pMSCs—a comparison of host cells and seeding cells in the scaffold. PLoS ONE 14: e0215499.
8. Licini, C., et al. 2020. Analysis of multiple protein detection methods in human osteoporotic bone extracellular matrix: from literature to practice. Bone 137: 115363.
9. Lee, S.Y., et al. 2021. PINK1 deficiency impairs osteoblast differentiation through aberrant mitochondrial homeostasis. Stem Cell Res. Ther. 12: 589.

RESEARCH USE

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