SANTA CRUZ BIOTECHNOLOGY, INC.

# BSX (Q-14): sc-167231

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

BSX (brain-specific homeobox), also known as BSX1, is a 233 amino acid highly conserved protein that localizes to the nucleus and is a member of the distal-less homeobox family. BSX is a DNA binding protein that functions as a transcriptional activator and is essential for normal postnatal growth and nursing. BSX is a master regulator for the hypothalamic expression of key orexigenic neuropeptide Y (NPY) and agouti-related peptide (AGRP) function. Expressed in the dorsomedial and arcuate nucleus (ARC) of the hypothalamus, BSX is regulated by afferent signals in response to peripheral energy balance. Containing a homeobox DNA-binding domain, BSX may be involved in the pathogenesis of leptin resistance. The gene encoding BSX maps to human chromosome 11, which houses over 1,400 genes and comprises nearly 4% of the human genome.

## REFERENCES


1. Cremona, M., et al. 2004. Bsx, an evolutionary conserved brain specific homeobox gene expressed in the septum, epiphysis, mammillary bodies and arcuate nucleus. Gene Expr. Patterns 4: 47-51.
2. Sakkou, M., et al. 2007. A role for brain-specific homeobox factor Bsx in the control of hyperphagia and locomotory behavior. Cell Metab. 5: 450-463.
3. Park, S.Y., et al. 2007. REST is a key regulator in brain-specific homeobox gene expression during neuronal differentiation. J. Neurochem. 103: 2565-2574.
4. Chu, H.Y. and Ohtoshi, A. 2007. Cloning and functional analysis of hypothalamic homeobox gene Bsx1a and its isoform, Bsx1b. Mol. Cell. Biol. 27: 3743-3749.
5. McArthur, T. and Ohtoshi, A. 2007. A brain-specific homeobox gene, Bsx, is essential for proper postnatal growth and nursing. Mol. Cell. Biol. 27: 5120-5127.
6. Nogueiras, R., et al. 2008. Bsx, a novel hypothalamic factor linking feeding with locomotor activity, is regulated by energy availability. Endocrinology 149: 3009-3015.
7. Coldren, C.D., et al. 2009. Chromosomal microarray mapping suggests a role for BSX and neurogranin in neurocognitive and behavioral defects in the 11q terminal deletion disorder (Jacobsen syndrome). Neurogenetics 10: 89-95.


## CHROMOSOMAL LOCATION

Genetic locus: BSX (human) mapping to 11q24.1; Bsx (mouse) mapping to 9 A5.1.

## SOURCE

BSX (Q-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of BSX of human origin.

## STORAGE

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

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-167231 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-167231 X, 200 µg/0.1 ml.

## APPLICATIONS

BSX (Q-14) is recommended for detection of BSX of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

BSX (Q-14) is also recommended for detection of BSX in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for BSX siRNA (h): sc-96305, BSX siRNA (m): sc-141767, BSX shRNA Plasmid (h): sc-96305-SH, BSX shRNA Plasmid (m): sc-141767-SH, BSX shRNA (h) Lentiviral Particles: sc-96305-V and BSX shRNA (m) Lentiviral Particles: sc-141767-V.

BSX (Q-14) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of BSX: 26 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## RESEARCH USE

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

## PROTOCOLS

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