SANTA CRUZ BIOTECHNOLOGY, INC.

BOULE (B-2): sc-166660

BACKGROUND

Spermatogenesis represents the intricate developmental process of mitotic and meiotic cell divisions that ultimately leads to the production of haploid spermatozoa. BOULE, a member of the human deleted in azoospermia (DAZ) family, functions as a key conserved switch that regulates the progression of germ cells through meiosis in man. BOULE is an RNA-binding protein that regulates the expression of twine, a Cdc25 phosphatase, which promotes progression through meiosis. BOULE is expressed not only in the testis, but also in the nervous system, where it may play a role in neural communication. Mutations in the BOULE gene are be associated with male infertility, and the relative proportions of the three BOULE isoforms (B1, B2 and B3) may function as predictive markers for meiotic efficiency.

CHROMOSOMAL LOCATION

Genetic locus: BOLL (human) mapping to 2q33.1; Boll (mouse) mapping to 1 C1.2.

SOURCE

BOULE (B-2) is a mouse monoclonal antibody raised against amino acids 111-199 mapping within an internal region of BOULE of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

BOULE (B-2) is available conjugated to agarose (sc-166660 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-166660 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166660 PE), fluorescein (sc-166660 FITC), Alexa Fluor® 488 (sc-166660 AF488), Alexa Fluor® 546 (sc-166660 AF546), Alexa Fluor® 594 (sc-166660 AF594) or Alexa Fluor® 647 (sc-166660 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166660 AF680) or Alexa Fluor® 790 (sc-166660 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

BOULE (B-2) is recommended for detection of BOULE of mouse, rat and 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for BOULE siRNA (h): sc-60280, BOULE siRNA (m): sc-60281, BOULE shRNA Plasmid (h): sc-60280-SH, BOULE shRNA Plasmid (m): sc-60281-SH, BOULE shRNA (h) Lentiviral Particles: sc-60280-V and BOULE shRNA (m) Lentiviral Particles: sc-60281-V.

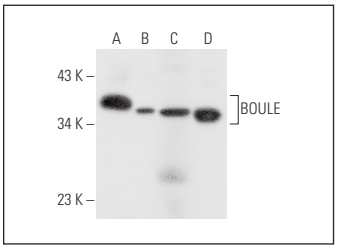
Molecular Weight of BOULE: 31 kDa.

Positive Controls: SW-13 cell lysate: sc-24778, A549 cell lysate: sc-2413 or NTERA-2 cl.D1 whole cell lysate: sc-364181.

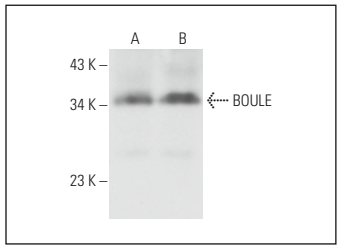
RECOMMENDED SUPPORT REAGENTS

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.

DATA



BOULE (B-2): sc-166660. Western blot analysis of BOULE expression in NTERA-2 cl.D1 (**A**) and A549 (**B**) whole cell lysates, rat testis tissue extract (**C**) and HeLa nuclear extract (**D**).



BOULE (B-2): sc-166660. Western blot analysis of BOULE expression in NTERA-2 cl.D1 (**A**) and SW-13 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Kossack, N., et al. 2013. A combined approach facilitates the reliable detection of human spermatogonia *in vitro*. Hum. Reprod. 28: 3012-3025.
2. Sharma, S., et al. 2018. Differentiation of testis xenografts in the prepubertal marmoset depends on the sex and status of the mouse host. Front. Endocrinol. 9: 467.
3. Wormser, O., et al. 2021. Absence of SCAPER causes male infertility in humans and *Drosophila* by modulating microtubule dynamics during meiosis. J. Med. Genet. 58: 254-263.
4. Sawaied, A., et al. 2021. The presence of colony-stimulating factor-1 and its receptor in different cells of the testis; it involved in the development of spermatogenesis *in vitro*. Int. J. Mol. Sci. 22: 2325.
5. Sharma, S., et al. 2022. Limited spermatogenic differentiation of testicular tissue from prepubertal marmosets *(Callithrix jacchus)* in an *in vitro* organ culture system. Mol. Cell. Endocrinol. 539: 111488.

STORAGE

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

PROTOCOLS

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