SANTA CRUZ BIOTECHNOLOGY, INC.

CSB (D-7): sc-166042

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Nucleotide excision repair of DNA lesions occurs more rapidly and at a higher frequency on the template, or the transcribed, strand of DNA and to a much lesser extent on the coding, or the non-transcribed, strand or on transcriptionally inactive DNA. CSA and CSB are two related genes that are responsible for directing this preferential DNA repair pattern, known as transcriptional-repair coupling. Cells from patients with the UV-sensitive nucleotide excision repair disorder Cockayne's syndrome (CS) have specific mutations affecting these genes and results in defects of the preferential repair on the transcribed strand of activated genes. CSA is a protein that belongs in the "WD-repeat" family of proteins. CSB, which is also designated excision repair cross-complementing protein-6 (ERCC-6), is the homolog of the yeast Rad26 protein. CSB belongs in the SWI/SNF family of proteins as it contains helicase motifs and ATPase activity.

CHROMOSOMAL LOCATION

Genetic locus: ERCC6 (human) mapping to 10q11.23.

SOURCE

CSB (D-7) is a mouse monoclonal antibody raised against amino acids 1-300 of CSB 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.

CSB (D-7) is available conjugated to agarose (sc-166042 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166042 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166042 PE), fluorescein (sc-166042 FITC), Alexa Fluor® 488 (sc-166042 AF488), Alexa Fluor® 546 (sc-166042 AF546), Alexa Fluor® 594 (sc-166042 AF594) or Alexa Fluor® 647 (sc-166042 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166042 AF680) or Alexa Fluor® 790 (sc-166042 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

CSB (D-7) is recommended for detection of CSB 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 CSB siRNA (h): sc-37794, CSB shRNA Plasmid (h): sc-37794-SH and CSB shRNA (h) Lentiviral Particles: sc-37794-V.

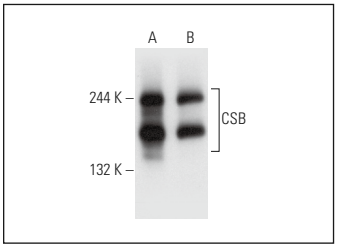
Molecular Weight of CSB: 168 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, HeLa whole cell lysate: sc-2200 or BJAB nuclear extract: sc-2145.

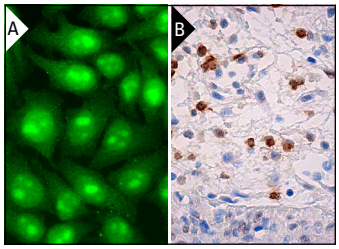
RECOMMENDED SUPPORT REAGENTS

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



CSB (D-7): sc-166042. Western blot analysis of CSB expression in HeLa (**A**) and BJAB (**B**) nuclear extracts.



CSB (D-7): sc-166042. Immunofluorescence staining of formalin-fixed HeLa cells showing nuclear, nucleolar and cytosol localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human oral mucosa tissue showing nuclear staining of inflammatory cells (**B**).

SELECT PRODUCT CITATIONS

1. Ceccaldi, R., et al. 2015. A unique subset of epithelial ovarian cancers with platinum sensitivity and PARP inhibitor resistance. Cancer Res. 75: 628-634.
2. Nicolai, S., et al. 2015. Identification of novel proteins co-purifying with Cockayne syndrome group B (CSB) reveals potential roles for CSB in RNA metabolism and chromatin dynamics. PLoS ONE 10: e0128558.
3. Nishimoto, K., et al. 2020. HDAC3 is required for XPC recruitment and nucleotide excision repair of DNA damage induced by UV irradiation. Mol. Cancer Res. 18: 1367-1378.

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.

PROTOCOLS

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