

CSB (E-6): sc-398022

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.

REFERENCES

1. Troelstra, C., et al. 1992. ERCC6, a member of a subfamily of putative helicases, is involved in Cockayne's syndrome and preferential repair of active genes. *Cell* 71: 939-953.
2. Troelstra, C., et al. 1993. Structure and expression of the excision repair gene ERCC6, involved in the human disorder Cockayne's syndrome group B. *Nucleic Acids Res.* 21: 419-426.

CHROMOSOMAL LOCATION

Genetic locus: ERCC6 (human) mapping to 10q11.23; Ercc6 (mouse) mapping to 14 B.

SOURCE

CSB (E-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 30-59 within an internal region of CSB of human origin.

PRODUCT

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

CSB (E-6) is available conjugated to agarose (sc-398022 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398022 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398022 PE), fluorescein (sc-398022 FITC), Alexa Fluor® 488 (sc-398022 AF488), Alexa Fluor® 546 (sc-398022 AF546), Alexa Fluor® 594 (sc-398022 AF594) or Alexa Fluor® 647 (sc-398022 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398022 AF680) or Alexa Fluor® 790 (sc-398022 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-398022 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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STORAGE

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

APPLICATIONS

CSB (E-6) is recommended for detection of CSB 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), 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 siRNA (m): sc-142603, CSB shRNA Plasmid (h): sc-37794-SH, CSB shRNA Plasmid (m): sc-142603-SH, CSB shRNA (h) Lentiviral Particles: sc-37794-V and CSB shRNA (m) Lentiviral Particles: sc-142603-V.

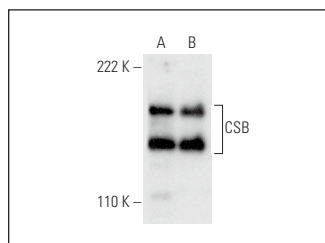
Molecular Weight of CSB: 168 kDa.

Positive Controls: HeLa nuclear extract: sc-2120 or BJAB nuclear extract: sc-2145.

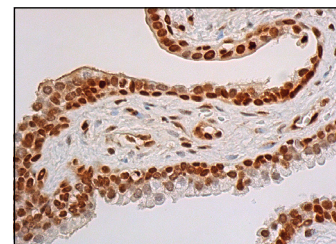
RECOMMENDED SUPPORT REAGENTS

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 (E-6): sc-398022. Western blot analysis of CSB expression in HeLa (A) and BJAB (B) nuclear extracts.



CSB (E-6): sc-398022. Immunoperoxidase staining of formalin fixed, paraffin-embedded human prostate tissue showing nuclear staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Donnio, L.M., et al. 2022. XAB2 dynamics during DNA damage-dependent transcription inhibition. *Elife* 11: e77094.
2. Lindsey-Boltz, L.A., et al. 2023. Nucleotide excision repair in human cell lines lacking both XPC and CSB proteins. *Nucleic Acids Res.* 51: 6238-6245.

RESEARCH USE

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