

CSB (B-10): sc-137090

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.
3. Henning, K.A., et al. 1995. The Cockayne syndrome group A gene encodes a WD repeat protein that interacts with CSB protein and a subunit of RNA polymerase II TFIIF. *Cell* 82: 555-564.
4. Iyer, N., et al. 1996. Interactions involving the human RNA polymerase II transcription/nucleotide excision repair complex TFIIF, the nucleotide excision repair protein XPG, and Cockayne syndrome group B (CSB) protein. *Biochemistry* 35: 2157-2167.
5. Van Gool, A.J., et al. 1997. The Cockayne syndrome B protein, involved in transcription-coupled DNA repair, resides in an RNA polymerase II-containing complex. *EMBO J.* 16: 5955-5965.
6. Tantin, D. 1998. RNA polymerase II elongation complexes containing the Cockayne syndrome group B protein interact with a molecular complex containing the transcription factor IIH components xeroderma pigmentosum B and p62. *J. Biol. Chem.* 273: 27794-27799.

CHROMOSOMAL LOCATION

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

SOURCE

CSB (B-10) is a mouse monoclonal antibody raised against amino acids 1-300 of CSB 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.

APPLICATIONS

CSB (B-10) 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) 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.

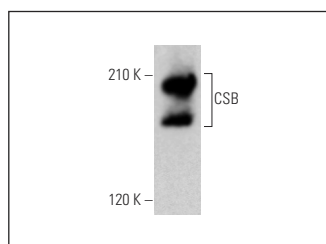
Positive Controls: HeLa nuclear extract: sc-2120, MCF7 nuclear extract: sc-2149 or BJAB nuclear extract: sc-2145.

RECOMMENDED SUPPORT REAGENTS

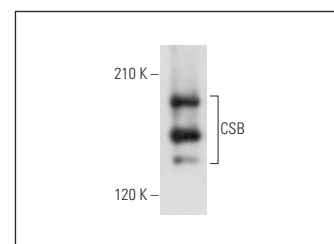
To ensure optimal results, the following support reagents are recommended:

- 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.

DATA



CSB (B-10): sc-137090. Western blot analysis of CSB expression in MCF7 nuclear extract.



CSB (B-10): sc-137090. Western blot analysis of CSB expression in HeLa nuclear extract.

SELECT PRODUCT CITATIONS

1. Zhu, Q., et al. 2020. USP7-mediated deubiquitination differentially regulates CSB but not UVSSA upon UV radiation-induced DNA damage. *Cell Cycle* 19: 124-141.

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.