SANTA CRUZ BIOTECHNOLOGY, INC.

CSB (H-300): sc-25370

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.

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.

SOURCE

CSB (H-300) is a rabbit polyclonal antibody raised against amino acids 1-300 of CSB of human origin.

PRODUCT

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

APPLICATIONS

CSB (H-300) is recommended for detection of CSB of human origin by Western Blotting (starting dilution 1:200, 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).

CSB (H-300) is also recommended for detection of CSB in additional species, including equine.

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.

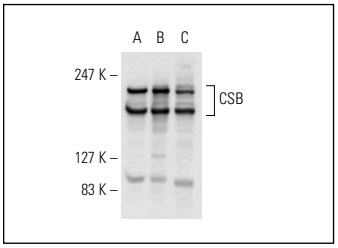
Molecular Weight of CSB: 168 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, BJAB whole cell lysate: sc-2207 or BJAB nuclear extract: sc-2145.

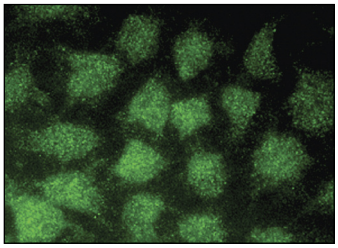
STORAGE

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

DATA



CSB (H-300): sc-25370. Western blot analysis of CSB expression in untreated HeLa (**A**), UV-treated HeLa (**B**) and BJAB (**C**) nuclear extracts.



CSB (H-300): sc-25370. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Imam, S.Z., et al. 2007. Cockayne syndrome protein B interacts with and is phosphorylated by c-Abl tyrosine kinase. Nucleic Acids Res. 35: 4941-4951.
2. Filippi, S., et al. 2008. CSB protein is (a direct target of HIF-1 and) a critical mediator of the hypoxic response. EMBO J. 27: 2545-2556.
3 Muftuoglu, M., et al. 2009. Cockayne syndrome group B protein stimulates repair of formamidopyrimidines by NEIL1 DNA glycosylase. J. Biol. Chem. 284: 9270-9279.
4. Aamann, M.D., et al. 2010. Cockayne syndrome group B protein promotes mitochondrial DNA stability by supporting the DNA repair association with the mitochondrial membrane. FASEB J. 24: 2334-2346.
5. Latimer, J.J., et al. 2010. Nucleotide excision repair deficiency is intrinsic in sporadic stage I breast cancer. Proc. Natl. Acad. Sci. USA 107: 21725-21730.
6. Bearden, S.E., et al. 2010. Extracellular transsulfuration generates hydrogen sulfide from homocysteine and protects endothelium from redox stress. Am. J. Physiol. Heart Circ. Physiol. 299: H1568-H1576.
7. Latini, P., et al. 2011. CSA and CSB proteins interact with p53 and regulate its Mdm2-dependent ubiquitination. Cell Cycle 10: 3719-3730.
8. Shen, M., et al. 2013. The chromatin remodeling factor CSB recruits histone acetyltransferase PCAF to rRNA gene promoters in active state for transcription initiation. PLoS ONE 8: e62668.

RESEARCH USE

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