SANTA CRUZ BIOTECHNOLOGY, INC.

CSB (E-18): sc-10459

BACKGROUND

Nucleotide excision repair of DNA lesions occurs more rapidly and at a higher frequency on the template, or transcribed, strand of DNA and to a much lesser extent on the coding, or non-transcribed, strand or on transcriptionally inactive DNA. CSA and CSB are two related genes that are responsible for directing this preferential DNA repair patter, 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, which result 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 (E-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region 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.

Blocking peptide available for competition studies, sc-10459 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

CSB (E-18) 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).

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.

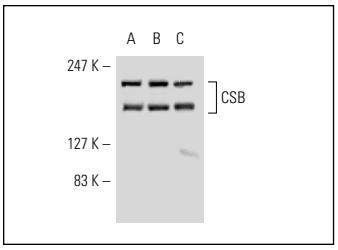
Molecular Weight of CSB: 168 kDa.

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

STORAGE

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

DATA



CSB (E-18): sc-10459. Western blot analysis of CSB expression in untreated HeLa (**A**), UV-treated HeLa (**B**) and BJAB (**C**) nuclear extracts.

SELECT PRODUCT CITATIONS

1. Solovjeva, L., et al. 2005. High mobility of flap endonuclease 1 and DNA polymerase η associated with replication foci in mammalian S-phase nucleus. Mol. Biol. Cell 16: 2518-2528.
2. Aune, G.J., et al. 2008. Von Hippel-Lindau-coupled and transcription-coupled nucleotide excision repair-dependent degradation of RNA polymerase II in response to trabectedin. Clin. Cancer Res. 14: 6449-6455.
3. Kamenisch, Y., et al. 2010. Proteins of nucleotide and base excision repair pathways interact in mitochondria to protect from loss of subcutaneous fat, a hallmark of aging. J. Exp. Med. 207: 379-390.
4. Stubbert, L.J., et al. 2010. Decreased transcription-coupled nucleotide excision repair capacity is associated with increased p53- and MLH1-independent apoptosis in response to cisplatin. BMC Cancer 10: 207.
5. Rocca, C.J., et al. 2010. The NER proteins XPC and CSB, but not ERCC1, regulate the sensitivity to the novel DNA binder S23906: implications for recognition and repair of antitumor alkylators. Biochem. Pharmacol. 80: 335-343.
6. Abbasi, R., et al. 2012. The endoperoxide ascaridol shows strong differential cytotoxicity in nucleotide excision repair-deficient cells. Toxicol. Appl. Pharmacol. 259: 302-310.

RESEARCH USE

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