

# CSB (N-17): sc-10458

## 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 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, 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.
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 (N-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus 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-10458 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

CSB (N-17) is recommended for detection of CSB of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 or BJAB nuclear extract: sc-2145.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## SELECT PRODUCT CITATIONS

1. 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.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **CSB (D-7): sc-166042** or **CSB (E-6): sc-398022**, our highly recommended monoclonal alternatives to CSB (N-17).