SANTA CRUZ BIOTECHNOLOGY, INC.

CSA (H-266): sc-25369

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 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 (ERCC6), 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 TFIIH. Cell 82: 555-564.
4. Iyer, N., et al. 1996. Interactions involving the human RNA polymerase II transcription/nucleotide excision repair complex TFIIH, 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.

CHROMOSOMAL LOCATION

Genetic locus: ERCC8 (human) mapping to 5q12.1; Ercc8 (mouse) mapping to 13 D2.1.

SOURCE

CSA (H-266) is a rabbit polyclonal antibody raised against amino acids 131-396 of CSA 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.

STORAGE

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

APPLICATIONS

CSA (H-266) is recommended for detection of CSA of mouse, rat and 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).

CSA (H-266) is also recommended for detection of CSA in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for CSA siRNA (h): sc-37792, CSA siRNA (m): sc-37793, CSA shRNA Plasmid (h): sc-37792-SH, CSA shRNA Plasmid (m): sc-37793-SH, CSA shRNA (h) Lentiviral Particles: sc-37792-V and CSA shRNA (m) Lentiviral Particles: sc-37793-V.

Molecular Weight of CSA: 44 kDa.

Positive Controls: JAR cell lysate: sc-2276.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/ 2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Mirkin, N., et al. 2008. The 3' processing factor CstF functions in the DNA repair response. Nucleic Acids Res. 36: 1792-1804.
2. Guthrie, O.W. 2012. Dynamic compartmentalization of DNA repair proteins within spiral ganglion neurons in response to noise stress. Int. J. Neurosci. 122: 757-766.
3. Guthrie, O.W. and Xu, H. 2012. Noise exposure potentiates the subcellular distribution of nucleotide excision repair proteins within spiral ganglion neurons. Hear. Res. 294: 21-30.

RESEARCH USE

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