SANTA CRUZ BIOTECHNOLOGY, INC.

CSA (D-2): sc-376981

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.

CHROMOSOMAL LOCATION

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

SOURCE

CSA (D-2) is a mouse monoclonal antibody raised against amino acids 131-396 of CSA of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CSA (D-2) is available conjugated to agarose (sc-376981 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376981 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376981 PE), fluorescein (sc-376981 FITC), Alexa Fluor® 488 (sc-376981 AF488), Alexa Fluor® 546 (sc-376981 AF546), Alexa Fluor® 594 (sc-376981 AF594) or Alexa Fluor® 647 (sc-376981 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376981 AF680) or Alexa Fluor® 790 (sc-376981 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

CSA (D-2) is recommended for detection of CSA of mouse, rat and 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 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.

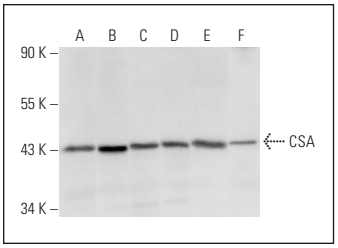
Molecular Weight of CSA: 44 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, Jurkat whole cell lysate: sc-2204 or MOLT-4 cell lysate: sc-2233.

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



CSA (D-2): sc-376981. Western blot analysis of CSA expression in A549 (**A**), Hep G2 (**B**), Jurkat (**C**), K-562 (**D**), MOLT-4 (**E**) and HeLa (**F**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Epanchintsev, A., et al. 2017. Cockayne's syndrome A and B proteins regulate transcription arrest after genotoxic stress by promoting ATF3 degradation. Mol. Cell 68: 1054-1066.e6.
2. Servant, G., et al. 2017. Transcription coupled repair and biased insertion of human retrotransposon L1 in transcribed genes. Mob. DNA 8: 18.
3. Cui, S., et al. 2022. Cockayne syndrome group B protein uses its DNA translocase activity to promote mitotic DNA synthesis. DNA Repair 116: 103354.
4. Hao, X.D., et al. 2022. Insufficient dose of ERCC8 protein caused by a frameshift mutation is associated with keratoconus with congenital cataracts. Invest. Ophthalmol. Vis. Sci. 63: 1.

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 for detailed protocols and support products.