SANTA CRUZ BIOTECHNOLOGY, INC.

XRCC2 (E-17): sc-5896

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The x-ray repair cross-complementing (XRCC) proteins are responsible for efficiently repairing and maintaining genetic stability following DNA base damage. These genes share sequence similarity with the yeast DNA repair protein Rad51. XRCC1 is a protein that facilitates the DNA base excision repair pathway by interacting with DNA ligase III and DNA polymerase to repair DNA single-strand breaks. XRCC2 and XRCC3 are both involved in maintaining chromosome stability during cell division. XRCC2 is required for efficient repair of DNA double-strand breaks by homologous recombination between sister chromatids, and XRCC3 interacts directly with Rad51 to cooperate with Rad51 during recombinational repair. XRCC4 is an accessory factor of DNA ligase IV that preferentially binds DNA with nicks or broken ends. XRCC4 binds to DNA ligase IV and enhances its joining activity, and it is also involved in V(D)J recombination. Any defect in one of the known components of the DNA repair/V(D)J recombination machinery (Ku-70, Ku-80, DNA-PKCS, XRCC4 and DNA ligase IV) leads to abortion of the V(D)J rearrangement process and early block in both T and B cell maturation.

CHROMOSOMAL LOCATION

Genetic locus: XRCC2 (human) mapping to 7q36.1; Xrcc2 (mouse) mapping to 5 A3.

SOURCE

XRCC2 (E-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of XRCC2 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-5896 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

RCC2 (E-17) is recommended for detection of XRCC2 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).

XRCC2 (E-17) is also recommended for detection of XRCC2 in additional species, including bovine and porcine.

Suitable for use as control antibody for XRCC2 siRNA (h): sc-36861, XRCC2 siRNA (m): sc-36862, XRCC2 shRNA Plasmid (h): sc-36861-SH, XRCC2 shRNA Plasmid (m): sc-36862-SH, XRCC2 shRNA (h) Lentiviral Particles: sc-36861-V and XRCC2 shRNA (m) Lentiviral Particles: sc-36862-V.

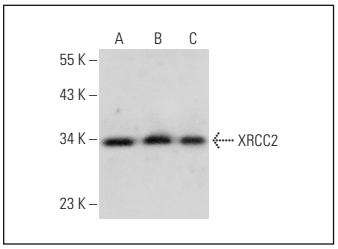
Molecular Weight of XRCC2: 34 kDa.

Positive Controls: Jurkat nuclear extract: sc-2132, Jurkat whole cell lysate: sc-2204 or K-562 whole cell lysate: sc-2203.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



XRCC2 (E-17): sc-5896. Western blot analysis of XRCC2 expression in Jurkat whole cell lysate (**A**) and K-562 (**B**) and Jurkat (**C**) nuclear extracts.

SELECT PRODUCT CITATIONS

1. Miller, K.A., et al. 2002. Rad51C interacts with Rad51B and is central to a larger protein complex *in vivo* exclusive of Rad51. J. Biol. Chem. 377: 8406-8411.
2. Miller, K.A., et al. 2005. Nuclear localization of Rad51B is independent of Rad51C and BRCA2. Mutagenesis 20: 57-63.

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 or our catalog for detailed protocols and support products.