

XRCC2 (1G4/1): sc-53469

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 70 kDa 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.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: XRCC2 (human) mapping to 7q36.1.

SOURCE

XRCC2 (1G4/1) is a mouse monoclonal antibody raised against denatured XRCC2 protein of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

XRCC2 (1G4/1) is recommended for detection of XRCC2 of human and hamster origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

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

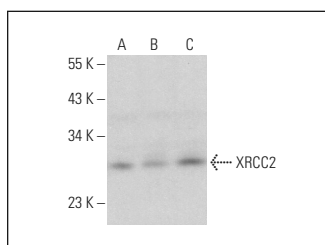
Molecular Weight of XRCC2: 34 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, HEL 92.1.7 cell lysate: sc-2270 or Jurkat nuclear extract: sc-2132.

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).

DATA



XRCC2 (1G4/1): sc-53469. Western blot analysis of XRCC2 expression in Jurkat nuclear extract (A) and HEL 92.1.7 (B) and Jurkat (C) whole cell lysates.

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.