SANTA CRUZ BIOTECHNOLOGY, INC.

DNA Ligase I (H-169): sc-366180

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

DNA ligase I maintains the major DNA ligase activity in proliferating cells by joining Okazaki fragments during lagging strand DNA replication. Human DNA ligase I also has an essential role in DNA repair pathways, where it catalyzes the formation of phosphodiester bonds between adjacent 5' phosphoryl and 3' hydroxy termini at single breaks in duplex DNA molecules. In addition, DNA ligase I plays a role in sealing nicks during excision repair. Similar to other DNA ligases, DNA ligase I is built around a common catalytic core. Increased levels of DNA ligase I are found in human tumors, as compared to benign tissues, as well as in peripheral blood lymphocytes. Furthermore, DNA ligase I antisense ODNs may decrease tumor cell proliferation, suggesting a potential role for DNA ligase I as an anti-cancer agent. DNA ligase I activity is altered in the chromosomal breakage deficit Bloom's syndrome (BS). Individuals with BS either have decreased levels of abnormally thermolabile DNA ligase I or possess a dimeric form of this enzyme.

CHROMOSOMAL LOCATION

Genetic locus: LIG1 (human) mapping to 19q13.33; Lig1 (mouse) mapping to 7 A1.

SOURCE

DNA Ligase I (H-169) is a rabbit polyclonal antibody raised against amino acids 751-919 mapping at the C-terminus of DNA Ligase I 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

DNA Ligase I (H-169) is recommended for detection of DNA Ligase I 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).

DNA Ligase I (H-169) is also recommended for detection of DNA Ligase I in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for DNA Ligase I siRNA (h): sc-35198, DNA Ligase I siRNA (m): sc-35199, DNA Ligase I shRNA Plasmid (h): sc-35198-SH, DNA Ligase I shRNA Plasmid (m): sc-35199-SH, DNA Ligase I shRNA (h) Lentiviral Particles: sc-35198-V and DNA Ligase I shRNA (m) Lentiviral Particles: sc-35199-V.

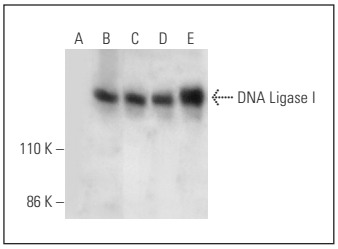
Molecular Weight of DNA Ligase I: 133 kDa.

Positive Controls: DNA Ligase I (h): 293T Lysate: sc-111712, MOLT-4 cell lysate: sc-2233 or HeLa whole cell lysate: sc-2200.

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.

DATA



DNA Ligase I (H-169): sc-366180. Western blot analysis of DNA Ligase I expression in non-transfected 293T: sc-117752 (**A**), human DNA Ligase I transfected 293T: sc-111712 (**B**), MOLT-4 (**C**), HeLa (**D**) and Jurkat (**E**) whole cell lysates.

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.

MONOS Satisfaction Guaranteed

Try **DNA Ligase I (C-5): sc-271678** or **DNA Ligase I (A-5): sc-390235**, our highly recommended monoclonal alternatives to DNA Ligase I (H-169).