

UDG (K-20): sc-14570

BACKGROUND

When misincorporation or cytosine deamination positions the RNA nucleotide uracil into DNA, uracil-DNA glycosylase (UDG) excises the uracil via a repair enzymatic pathway. This is done by cleaving the N-C1' glycosylic bond between the base and deoxyribose, in both single and double-stranded DNA. While initiating the first steps of DNA repair, UDG undergoes a conformational change from the "open" unbound state to the "closed" DNA-bound state, creating a catalytic center. The bound UDG effectively flips the uridine nucleotide into the catalytic center and cleaves the glycosylic bond to excise the uracil. The open-to-closed conformation change is centered on a B zipper in the UDG. UDG alters the orientation electron orbitals to favor electron transpositions, thus taking advantage of conformational strain to catapult the cleavage of the glycosylic bond. Two isoforms of UDG, UDG1 and UDG1A, have been characterized. The UDG1 isoform localizes to the mitochondria. UDG1A is a processed isoform containing a unique 44 residue amino-terminus which localizes this isoform to the nucleus.

CHROMOSOMAL LOCATION

Genetic locus: NCOA3 (human) mapping to 12q24.11; Ncoa3 (mouse) mapping to 5 F.

SOURCE

UDG (K-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of UDG 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-14570 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

UDG (K-20) is recommended for detection of UDG of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

UDG (K-20) is also recommended for detection of UDG in additional species, including canine, bovine, porcine and avian.

Suitable for use as control antibody for UDG siRNA (h): sc-37803, UDG siRNA (m): sc-37804, UDG shRNA Plasmid (h): sc-37803-SH, UDG shRNA Plasmid (m): sc-37804-SH, UDG shRNA (h) Lentiviral Particles: sc-37803-V and UDG shRNA (m) Lentiviral Particles: sc-37804-V.

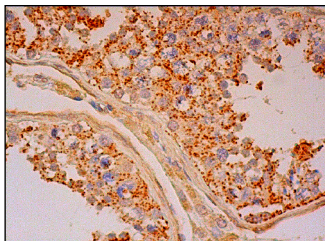
Molecular Weight of UDG: 34 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, HeLa whole cell lysate: sc-2200 or JAR cell lysate: sc-2276.

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) 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. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



UDG (K-20): sc-14570. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing cytoplasmic staining of cells in seminiferous ducts and Leydig cells.

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.

MONOS
Satisfaction
Guaranteed

Try **UDG (B-7): sc-390255** or **UDG (k1C12): sc-73639**, our highly recommended monoclonal alternatives to UDG (K-20).