

ICF45 (D-12): sc-162952

BACKGROUND

The transfer RNA (tRNA) for histidine is unique among eukaryotic tRNAs because it requires the addition of a guanine nucleotide by tRNA(His) guanylyltransferase. The addition of guanine is necessary for aminoacylation by the histidine tRNA synthetase. ICF45 (interphase cytoplasmic foci protein 45), also known as THG1L or probable tRNA-histidine guanylyltransferase, is a highly conserved novel 298 amino acid protein belonging to the tRNA(His) guanylyltransferase family. Localized to the cytoplasm, ICF45 is also found near the nuclear membrane and is expressed in many tissues, including liver and lung. Upon DNA damage, ICF45 is phosphorylated, most likely by ATM or ATR. ICF45 is expressed in a cell cycle-dependent manner and may be involved in cell cycle progression and cell proliferation. ICF45 is encoded by a gene located on human chromosome 5q33.3 and mouse chromosome 11 B1.1.

REFERENCES

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- Hyde, S.J., et al. 2010. tRNA(His) guanylyltransferase (THG1), a unique 3'-5' nucleotidyl transferase, shares unexpected structural homology with canonical 5'-3' DNA polymerases. *Proc. Natl. Acad. Sci. USA* 107: 20305-20310.

CHROMOSOMAL LOCATION

Genetic locus: THG1L (human) mapping to 5q33.3; Thg1l (mouse) mapping to 11 B1.1.

SOURCE

ICF45 (D-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ICF45 of human origin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

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-162952 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ICF45 (D-12) is recommended for detection of ICF45 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

ICF45 (D-12) is also recommended for detection of ICF45 in additional species, including bovine and porcine.

Suitable for use as control antibody for ICF45 siRNA (h): sc-91730, ICF45 siRNA (m): sc-146135, ICF45 shRNA Plasmid (h): sc-91730-SH, ICF45 shRNA Plasmid (m): sc-146135-SH, ICF45 shRNA (h) Lentiviral Particles: sc-91730-V and ICF45 shRNA (m) Lentiviral Particles: sc-146135-V.

Molecular Weight of ICF45: 45 kDa.

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.

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.