BACKGROUND

Purines are critical for energy metabolism, cell signaling and cell reproduction and also function as precursors for coenzymes, energy transfer molecules, regulatory factors and proteins involved in RNA and DNA synthesis. GART (GAR transformylase), also referred to as AIRS, GARS, PAIS, PGFT, PRGS or GARTF, is 1,010 amino acids in length and is a key folate dependent trifunctional enzyme with phosphoribosylglycinamide formyltransferase, phosphoribosylglycinamide synthetase and AIRC (phosphoribosylaminomimidazole synthetase) activity required for de novo purine biosynthesis. Cancer cells require considerable amounts of purines to sustain their accelerated growth and GART is, therefore, a target for cancer chemotherapy. GART is highly conserved in vertebrates. Two isoforms of GART are expressed due to alternative splicing events.

REFERENCES


CHROMOSOMAL LOCATION

Genetic locus: GART (human) mapping to 21q22.11; Gart (mouse) mapping to 16 C3.3.

SOURCE

GART (D-4) is a mouse monoclonal antibody raised against amino acids 61-360 mapping near the N-terminus of GART 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.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

GART (D-4) is recommended for detection of GART of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 1:30-1:300).

Suitable for use as control antibody for GART siRNA (h): sc-91395, GART siRNA (m): sc-145331, GART shRNA Plasmid (h): sc-91395-SH, GART shRNA Plasmid (m): sc-145331-SH, GART shRNA (h) Lentiviral Particles: sc-91395-V and GART shRNA (m) Lentiviral Particles: sc-145331-V.

Molecular Weight of GART long isoform: 110 kDa.

Molecular Weight of GART short isoform: 46 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, Daudi cell lysate: sc-2415 or K-562 whole cell lysate: sc-2203.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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

GART (D-4): sc-166379. Western blot analysis of GART expression in HeLa nuclear extract (A) and K-562 (B), Daudi (C) and NIH/3T3 (D) whole cell lysates.

GART (D-4): sc-166379. Immunofluorescence staining of formalin-fixed SW480 (A) and HeLa (B) cells showing cytoplasmic localization.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.