

NAT-1/2 (G-5): sc-137204

BACKGROUND

Arylamine N-acetyltransferases (NAT-1 and NAT-2) catalyze N- or O-acetylation of heterocyclic and arylamine substrates in the detoxification of a wide array of drugs. Certain alleles causing high levels of N-acetyltransferase activity have been associated with colon and urinary bladder cancers, as NAT's also bioactivate several known carcinogens. Both NAT-1 and NAT-2 are cytoplasmic proteins and play an active role in the detoxification of many arylamine and hydrazine drugs. N-acetylation polymorphism is determined by the level of NAT activity in liver tissues, and has been linked to the action and toxicity of drugs that contain amines. Human NAT-1 is the functional homolog of rodent NAT-2, while human NAT-2 is the functional homolog of rodent NAT-1.

REFERENCES

1. Lanckriet, C., et al. 1992. Morbidity and mortality in the pediatric service of Banqui (Central African Republic) during the year 1990. Implications for public health. *Ann. Pediatr.* 39: 125-130.
2. Kiss, I., et al. 2004. Polymorphisms of glutathione-S-transferase and arylamine N-acetyltransferase enzymes and susceptibility to colorectal cancer. *Anticancer Res.* 24: 3965-3970.
3. Li, Y.C., et al. 2005. N-acetyltransferase is involved in baicalein-induced N-acetylation of 2-aminofluorene and DNA-2-aminofluorene adduct formation in human leukemia HL-60 cells. *In Vivo* 19: 399-405.

CHROMOSOMAL LOCATION

Genetic locus: NAT1 (human) mapping to 8p22; Nat2 (mouse) mapping to 8 B3.3.

SOURCE

NAT-1/2 (G-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 261-290 at the C-terminus of NAT-1 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.

NAT-1/2 (G-5) is available conjugated to agarose (sc-137204 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-137204 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-137204 PE), fluorescein (sc-137204 FITC), Alexa Fluor® 488 (sc-137204 AF488), Alexa Fluor® 546 (sc-137204 AF546), Alexa Fluor® 594 (sc-137204 AF594) or Alexa Fluor® 647 (sc-137204 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-137204 AF680) or Alexa Fluor® 790 (sc-137204 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-137204 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

NAT-1/2 (G-5) is recommended for detection of NAT-1 of human origin and NAT-2 of mouse and rat 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), 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).

Suitable for use as control antibody for NAT-1 siRNA (h): sc-61154, NAT-2 siRNA (m): sc-61157, NAT-1 shRNA Plasmid (h): sc-61154-SH, NAT-2 shRNA Plasmid (m): sc-61157-SH, NAT-1 shRNA (h) Lentiviral Particles: sc-61154-V and NAT-2 shRNA (m) Lentiviral Particles: sc-61157-V.

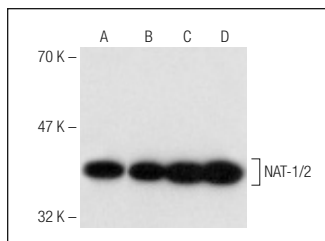
Molecular Weight of NAT-1/2: 34 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, A-431 whole cell lysate: sc-2201 or MOLT-4 cell lysate: sc-2233.

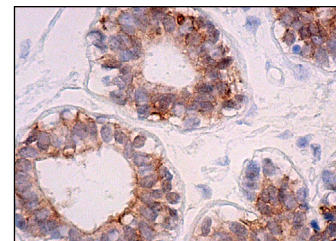
RECOMMENDED SUPPORT REAGENTS

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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



NAT-1/2 (G-5): sc-137204. Western blot analysis of NAT-1/2 expression in Hep G2 (A), A-431 (B), A549 (C) and MOLT-4 (D) whole cell lysates.



NAT-1/2 (G-5): sc-137204. Immunoperoxidase staining of formalin fixed, paraffin-embedded human breast tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Salazar-González, R.A., et al. 2020. Human arylamine N-acetyltransferase 2 genotype-dependent protein expression in cryopreserved human hepatocytes. *Sci. Rep.* 10: 7566.

RESEARCH USE

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

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