SANTA CRUZ BIOTECHNOLOGY, INC.

NAT-2 (C-17): sc-47227

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.

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.
4. Deguchi, M., et al. 2005. Lack of association between endometriosis and N-acetyl transferase 1 (NAT1) and 2 (NAT2) polymorphisms in a Japanese population. J. Soc. Gynecol. Investig. 12: 208-213.
5. Zhang, X.F., et al. 2005. Are polymorphisms of N-acetyltransferase genes susceptible to primary liver cancer in Luoyang, China? World J. Gastroenterol. 11: 1457-1462.
6. Broberg, K., et al. 2005. Constitutional short telomeres are strong genetic susceptibility markers for bladder cancer. Carcinogenesis 26: 1263-1271.

CHROMOSOMAL LOCATION

Genetic locus: NAT1 (human) mapping to 8p22.

SOURCE

NAT-2 (C-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of NAT-2 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-47227 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

NAT-2 (C-17) is recommended for detection of NAT-2 of 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).

Suitable for use as control antibody for NAT-2 siRNA (h): sc-61156, NAT-2 shRNA Plasmid (h): sc-61156-SH and NAT-2 shRNA (h) Lentiviral Particles: sc-61156-V.

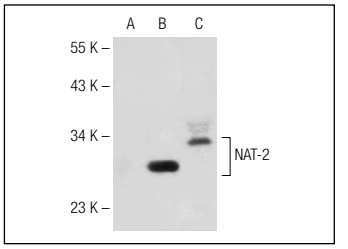
Molecular Weight of NAT-2: 34 kDa.

Positive Controls: NAT-2 (m): 293T Lysate: sc-121945 or A549 cell lysate: sc-2413.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



NAT-1/2 (C-17): sc-47227. Western blot analysis of NAT-2 expression in non-transfected 293T: sc-117752 (**A**), mouse NAT-2 transfected 293T: sc-121945 (**B**) and A549 (**C**) whole cell lysates.

PROTOCOLS

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