

cyt19 (F-9): sc-377436

BACKGROUND

Formation of methylated metabolites is a critical step in the metabolism of inorganic arsenic. Arsenite methyltransferase (cyt19) is localized to the cytoplasm and operates in the transfer of a methyl group from AdoMet to trivalent arsenicals producing methylated and dimethylated arsenicals. It methylates arsenite to form methylarsonate which is reduced to methylarsonite. Methylarsonite acts as a substrate and is converted into a much less toxic compound dimethylarsinate. Cyt19 is highly expressed in liver. Inherited variation in cyt19 may contribute to variation in arsenic metabolism and possibly arsenic-dependent carcinogenesis in humans.

REFERENCES

- Walton, F.S., et al. 2003. Selenium compounds modulate the activity of recombinant rat AsIII-methyl and the methylation of arsenite by rat and human hepatocytes. *Chem. Res. Toxicol.* 16: 261-265.
- Waters, S.B., et al. 2004. Endogenous reductants support the catalytic function of recombinant rat cyt19, an arsenic methyltransferase. *Chem. Res. Toxicol.* 17: 404-409.
- Thomas, D.J., et al. 2004. Elucidating the pathway for arsenic methylation. *Toxicol. Appl. Pharmacol.* 198: 319-326.
- Drobn, Z., et al. 2004. Interindividual variation in the metabolism of arsenic in cultured primary human hepatocytes. *Toxicol. Appl. Pharmacol.* 201: 166-177.
- Hayakawa, T., et al. 2005. A new metabolic pathway of arsenite: arsenic-glutathione complexes are substrates for human arsenic methyltransferase cyt19. *Arch. Toxicol.* 79: 183-191.

CHROMOSOMAL LOCATION

Genetic locus: AS3MT (human) mapping to 10q24.32; As3mt (mouse) mapping to 19 C3.

SOURCE

cyt19 (F-9) is a mouse monoclonal antibody raised against amino acids 177-375 mapping at the C-terminus of cyt19 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.

cyt19 (F-9) is available conjugated to agarose (sc-377436 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377436 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377436 PE), fluorescein (sc-377436 FITC), Alexa Fluor® 488 (sc-377436 AF488), Alexa Fluor® 546 (sc-377436 AF546), Alexa Fluor® 594 (sc-377436 AF594) or Alexa Fluor® 647 (sc-377436 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377436 AF680) or Alexa Fluor® 790 (sc-377436 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

cyt19 (F-9) is recommended for detection of cyt19 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 1:30-1:3000).

Suitable for use as control antibody for cyt19 siRNA (h): sc-60494, cyt19 siRNA (m): sc-60495, cyt19 shRNA Plasmid (h): sc-60494-SH, cyt19 shRNA Plasmid (m): sc-60495-SH, cyt19 shRNA (h) Lentiviral Particles: sc-60494-V and cyt19 shRNA (m) Lentiviral Particles: sc-60495-V.

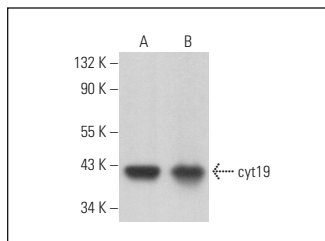
Molecular Weight of cyt19: 42 kDa.

Positive Controls: human liver extract: sc-363766, Hep G2 cell lysate: sc-2227 or human heart extract: sc-363763.

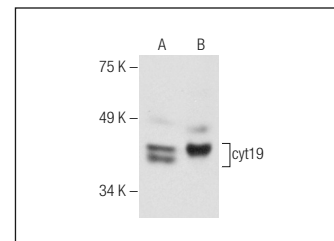
RECOMMENDED SUPPORT REAGENTS

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.

DATA



cyt19 (F-9): sc-377436. Western blot analysis of cyt19 expression in Hep G2 whole cell lysate (A) and human liver tissue extract (B).



cyt19 (F-9): sc-377436. Western blot analysis of cyt19 expression in Hep G2 whole cell lysate (A) and human heart tissue extract (B).

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.

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