

cyt19 (H-199): sc-134784

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.
- Meza, MM., et al. 2005. Developmentally restricted genetic determinants of human arsenic metabolism: association between urinary methylated arsenic and CYT19 polymorphisms in children. *Environ. Health Perspect.* 113: 775-781.

CHROMOSOMAL LOCATION

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

SOURCE

cyt19 (H-199) is a rabbit polyclonal antibody raised against amino acids 177-375 mapping at the C-terminus of cyt19 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.

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

cyt19 (H-199) is recommended for detection of cyt19 of human and, to a lesser extent, mouse and rat 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).

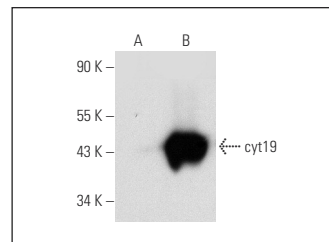
cyt19 (H-199) is also recommended for detection of cyt19 in additional species, including equine and canine.

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.

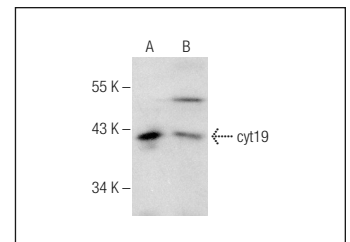
Molecular Weight of cyt19: 42 kDa.

Positive Controls: cyt19 (m): 293T Lysate: sc-119612, CCRF-CEM cell lysate: sc-2225 or human kidney extract: sc-363764.

DATA



cyt19 (H-199): sc-134784. Western blot analysis of cyt19 expression in non-transfected: sc-117752 (A) and mouse cyt19 transfected: sc-119612 (B) 293T whole cell lysates.



cyt19 (H-199): sc-134784. Western blot analysis of cyt19 expression in CCRF-CEM whole cell lysate (A) and human kidney tissue extract (B).

PROTOCOLS

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



Try **cyt19 (D-1): sc-376537** or **cyt19 (F-9): sc-377436**, our highly recommended monoclonal alternatives to cyt19 (H-199).