

QAPRTase (ZN-17): sc-100809

BACKGROUND

Quinolate phosphoribosyltransferase (QPRTase) is a major enzyme in the catabolism of quinolinate. Quinolate is an intermediate in the tryptophan-nicotinamide adenine dinucleotide (NAD) pathway, leading to the production of nicotinic acid, carbon dioxide and pyrophosphate. Catabolism of quinolinate is vital due to the neurotoxicity of quinolinate. Increased levels of quinolinate have been linked to neurodegenerative symptoms associated with meningitis and AIDS. QAPRTase has a seven-stranded α/β barrel domain, which is similar in structure to the eight-stranded α/β barrel enzymes. The protein possesses a novel fold in comparison to other members of the PRTase family. This fold comprises a structure combining two domains. The structure is part α/β barrel-like domain, and part α/β N-terminal domain.

REFERENCES

- Eads, J.C., et al. 1997. A new function for a common fold: the crystal structure of quinolinic acid phosphoribosyltransferase. *Structure* 5: 47-58.
- Cao, H., et al. 2002. Quinolate phosphoribosyltransferase: kinetic mechanism for a type II PRTase. *Biochemistry* 41: 3520-3528.
- Kim, M.K., et al. 2003. Crystallization and preliminary X-ray crystallographic analysis of quinolate phosphoribosyltransferase of *Helicobacter pylori*. *Acta Crystallogr. D Biol. Crystallogr.* 59: 1265-1266.
- Connor, S.C., et al. 2004. Development of a multivariate statistical model to predict peroxisome proliferation in the rat, based on urinary $^1\text{H-NMR}$ spectral patterns. *Biomarkers* 9: 364-385.
- Schwarzenbacher, R., et al. 2004. Crystal structure of a type II quinolic acid phosphoribosyltransferase (TM1645) from *Thermotoga maritima* at 2.50 Å resolution. *Proteins* 55: 768-771.
- Delaney, J., et al. 2005. Tryptophan-NAD⁺ pathway metabolites as putative biomarkers and predictors of peroxisome proliferation. *Arch. Toxicol.* 79: 208-223.
- Wang, T., et al. 2006. Structure of Nampt/PBEF/visfatin, a mammalian NAD⁺ biosynthetic enzyme. *Nat. Struct. Mol. Biol.* 13: 661-662.
- Kim, M.K., et al. 2006. Crystal structure of quinolinic acid phosphoribosyltransferase from *Helicobacter pylori*. *Proteins* 63: 252-255.

CHROMOSOMAL LOCATION

Genetic locus: QPRT (human) mapping to 16p11.2.

SOURCE

QAPRTase (ZN-17) is a mouse monoclonal antibody raised against recombinant QAPRTase of human origin.

PRODUCT

Each vial contains 100 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

QAPRTase (ZN-17) is recommended for detection of QAPRTase 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), 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 QAPRTase siRNA (h): sc-62914, QAPRTase shRNA Plasmid (h): sc-62914-SH and QAPRTase shRNA (h) Lentiviral Particles: sc-62914-V.

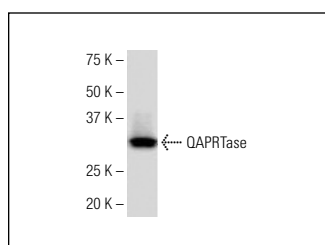
Molecular Weight of QAPRTase: 30 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

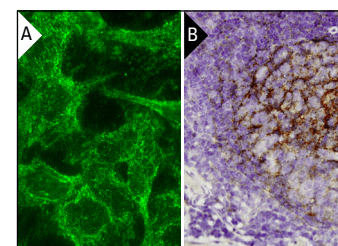
RECOMMENDED SUPPORT REAGENTS

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). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ 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-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



QAPRTase (ZN-17): sc-100809. Western blot analysis of QAPRTase expression in Hep G2 whole cell lysate.



QAPRTase (ZN-17): sc-100809. Immunofluorescence staining of methanol-fixed Hep G2 cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin-fixed, paraffin-embedded human tonsil tissue showing cytoplasmic localization (B).

SELECT PRODUCT CITATIONS

- Zlatic, S.A., et al. 2018. Rare disease mechanisms identified by genealogical proteomics of copper homeostasis mutant pedigrees. *Cell Syst.* 6: 368-380.

STORAGE

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