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- Expressversand

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# GCH-I (m2): 293T Lysate: sc-120451

## BACKGROUND

GTP cyclohydrolase I (GCH-I), a homododecamer, catalyzes the conversion of GTP into dihydroneopterin triphosphate and folate. GCH-I is the first and rate limiting enzyme in tetrahydrobiopterin (BH4) biosynthesis. BH4 is the cofactor for tyrosine hydroxylase, a rate-limiting enzyme for dopamine synthesis and tryptophan hydroxylase, the rate-limiting enzyme for serotonin biosynthesis. Dopamine and serotonin are neurotransmitters involved in depression, which may be associated with a deficiency of BH4. Mutations in the gene encoding GCH-I cause malignant hyperphen-ylalaninemia, a genetic neurological disorder characterized by abnormally high levels of serum phenylalanine, and dopa-responsive dystonia (DRD), a group of movement disorders characterized by a progressive difficulty in walking which respond to L-dopa.

## REFERENCES

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3. Ishii, M., Shimizu, S., Wajima, T., Hagiwara, T., Negoro, T., Miyazaki, A., Tobe, T. and Kiuchi, Y. 2005. Reduction of GTP cyclohydrolase I feedback regulating protein expression by hydrogen peroxide in vascular endothelial cells. *J. Pharmacol. Sci.* 97: 299-302.
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6. Nandi, M., Miller, A., Stidwill, R., Jacques, T.S., Lam, A.A., Haworth, S., Heales, S. and Vallance, P. 2005. Pulmonary hypertension in a GTP-cyclohydrolase 1-deficient mouse. *Circulation* 111: 2086-2090.

## CHROMOSOMAL LOCATION

Genetic locus: Gch1 (mouse) mapping to 14 C1.

## PRODUCT

GCH-I (m2): 293T Lysate represents a lysate of mouse GCH-I transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

## STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

## APPLICATIONS

GCH-I (m2): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive GCH-I antibodies. Recommended use: 10-20 µl per lane.

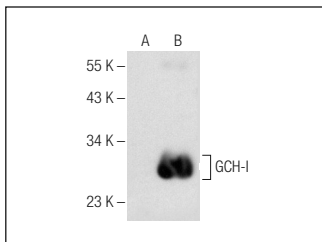
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

GCH-I (G-8): sc-376483 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse GCH-I expression in GCH-I transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

## 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.

## DATA



GCH-I (G-8): sc-376483. Western blot analysis of GCH-I expression in non-transfected: sc-117752 (A) and mouse GCH-I transfected: sc-120451 (B) 293T whole cell lysates.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.