10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Goat Anti-GCH1 Antibody

Peptide-affinity purified goat antibody

Catalog # AF1470a

Specification

Goat Anti-GCH1 Antibody - Product Information

Application	**WB, IHC**
Primary Accession	P30793
Other Accession	NP_001019242, 2643, 14528 (mouse), 29244 (rat)
Reactivity	**Human**
Predicted	**Mouse, Rat**
Host	**Goat**
Clonality	**Polyclonal**
Concentration	**100ug/200ul**
Isotype	**IgG**
Calculated MW	**27903**

Goat Anti-GCH1 Antibody - Additional Information

Gene ID 2643

Other Names
GTP cyclohydrolase 1, 3.5.4.16, GTP cyclohydrolase I, GTP-CH-I, GCH1, DYT5, GCH

Format
0.5 mg IgG/ml in Tris saline (20mM Tris pH7.3, 150mM NaCl), 0.02% sodium azide, with 0.5% bovine serum albumin

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
Goat Anti-GCH1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Goat Anti-GCH1 Antibody - Protein Information

Name GCH1

Synonyms DYT5, GCH

Function
Positively regulates nitric oxide synthesis in umbilical vein endothelial cells (HUVECs). May be involved in dopamine synthesis. May modify pain sensitivity and persistence. Isoform GCH-1 is the functional enzyme, the potential function of the enzymatically inactive isoforms remains unknown.

Cellular Location
Cytoplasm. Nucleus

Tissue Location
In epidermis, expressed predominantly in basal undifferentiated keratinocytes and in some but not all melanocytes (at protein level).

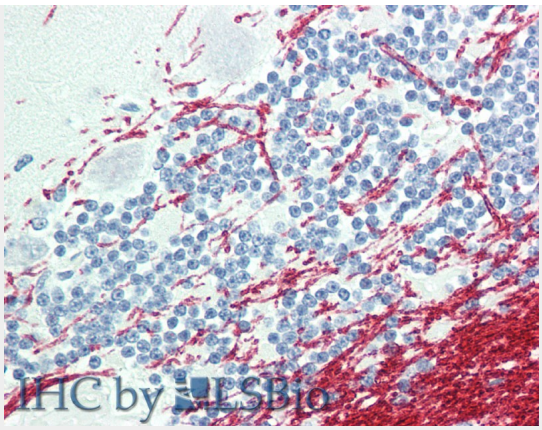
Goat Anti-GCH1 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

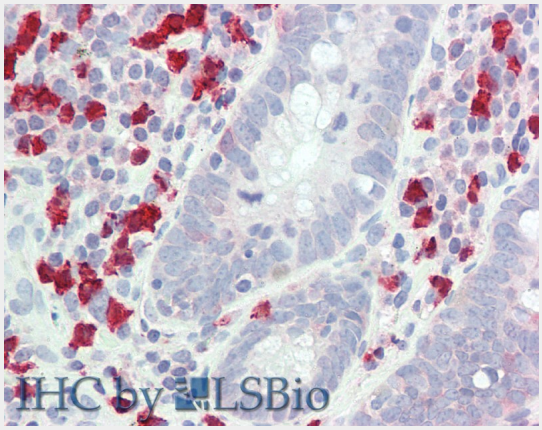
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Goat Anti-GCH1 Antibody - Images

AF1470a (0.5 µg/ml) staining of Human Tonsil lysate (35 µg protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence.



EB08354 (5µg/ml) staining of paraffin embedded Human Cerebellum. Steamed antigen retrieval with citrate buffer pH 6, AP-staining.



EB08354 (5µg/ml) staining of paraffin embedded Human Small Intestine. Steamed antigen retrieval with citrate buffer pH 6, AP-staining.

Goat Anti-GCH1 Antibody - Background

This gene encodes a member of the GTP cyclohydrolase family. The encoded protein is the first and rate-limiting enzyme in tetrahydrobiopterin (BH4) biosynthesis, catalyzing the conversion of GTP into 7,8-dihydroneopterin triphosphate. BH4 is an essential cofactor required by aromatic amino acid hydroxylases as well as nitric oxide synthases. Mutations in this gene are associated with malignant hyperphenylalaninemia and dopa-responsive dystonia. Several alternatively spliced transcript variants encoding different isoforms have been described; however, not all variants give rise to a functional enzyme.

Goat Anti-GCH1 Antibody - References

Different SNP combinations in the GCH1 gene and use of labor analgesia. Dabo F, et al. Mol Pain, 2010 Jul 15. PMID 20633294.
Variation at the NFATC2 Locus Increases the Risk of Thiazolinedinedione-Induced Edema in the Diabetes REduction Assessment with ramipril and rosiglitazone Medication (DREAM) Study. Bailey SD, et al. Diabetes Care, 2010 Jul 13. PMID 20628086.
Exploring epistatic relationships of NO biosynthesis pathway genes in susceptibility to CHD. Tu YC, et al. Acta Pharmacol Sin, 2010 Jul. PMID 20581851.
Four novel mutations in the GCH1 gene of Chinese patients with dopa-responsive dystonia. Cao L, et al. Mov Disord, 2010 Apr 30. PMID 20437540.
Cardiac myocyte-specific overexpression of human GTP cyclohydrolase I protects against acute cardiac allograft rejection. Ionova IA, et al. Am J Physiol Heart Circ Physiol, 2010 Jul. PMID

20418482.