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

Anti-Cytoglobin Antibody
Catalog # ABO10972

Specification

Anti-Cytoglobin Antibody - Product Information

Application	**WB**
Primary Accession	Q8WWM9
Host	**Rabbit**
Reactivity	**Human, Mouse, Rat**
Clonality	**Polyclonal**
Format	**Lyophilized**

Description
Rabbit IgG polyclonal antibody for Cytoglobin(CYGB) detection. Tested with WB in Human;Rat.

Reconstitution
Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-Cytoglobin Antibody - Additional Information

Gene ID 114757

Other Names
Cytoglobin, Histoglobin, HGb, Stellate cell activation-associated protein, CYGB, STAP

Calculated MW
21405 MW KDa

Application Details
Western blot, 0.1-0.5 µg/ml, Human, Rat, Mouse

Subcellular Localization
Cytoplasm .

Tissue Specificity
Ubiquitously expressed. Highest expression in heart, stomach, bladder and small intestine. .

Protein Name
Cytoglobin

Contents
Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg Thimerosal, 0.05mg NaN3.

Immunogen
A synthetic peptide corresponding to a sequence at the N-terminus of human Cytoglobin(50-68aa FVNFPSAKQYFSQFKHMED), identical to the related rat sequence, different from the related mouse sequence by one amino acid.

Purification
Immunogen affinity purified.

Cross Reactivity
No cross reactivity with other proteins

Storage	**At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.**

Anti-Cytoglobin Antibody - Protein Information

Name CYGB (HGNC:16505)

Function
Probable multifunctional globin with a hexacoordinated heme iron required for the catalysis of various reactions depending on redox condition of the cell as well as oxygen availability (PubMed:11893755, PubMed:12359339, PubMed:15165856, PubMed:19147491, PubMed:20511233, PubMed:28393874, PubMed:28671819, PubMed:29128400, PubMed:33576020, PubMed:34930834). Has a nitric oxide dioxygenase (NOD) activity and is most probably involved in cell-mediated and oxygen-dependent nitric oxide consumption (PubMed:19147491, PubMed:20511233, PubMed:28393874, PubMed:28671819). By scavenging this second messenger may regulate several biological processes including endothelium-mediated vasodilation and vascular tone (PubMed:19147491, PubMed:28393874). Under normoxic conditions functions as a nitric oxide dioxygenase (NOD) but under hypoxic conditions the globin may switch its function to that of a nitrite (NO2) reductase (NiR), generating nitric oxide (PubMed:29128400). Could also have peroxidase and superoxide dismutase activities, detoxifying reactive oxygen species and protecting cells against oxidative stress (PubMed:12359339, PubMed:33576020, PubMed:34930834). Also binds dioxygen with low affinity and could function as an oxygen sensor but has probably no function as a respiratory oxygen carrier (PubMed:11893755, PubMed:15299006, PubMed:20553503).

Cellular Location
Cytoplasm. Nucleus

Tissue Location
Widely expressed. Highest expression in heart, stomach, bladder and small intestine.

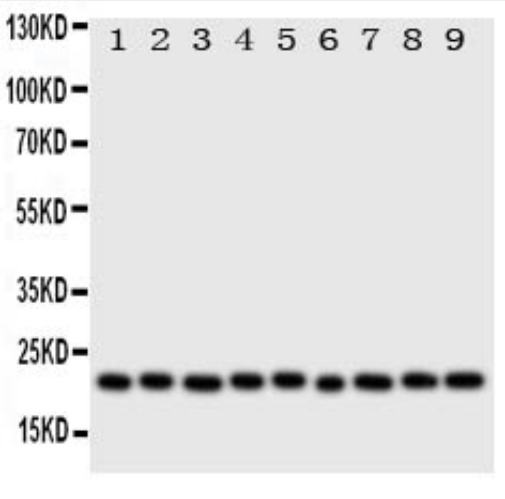
10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Anti-Cytoglobin 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

Anti-Cytoglobin Antibody - Images



Anti-Cytoglobin antibody, ABO10972, Western blottingAll lanes: Anti Cytoglobin (ABO10972) at 0.5ug/mlLane 1: Rat Brain Tissue Lysate at 50ugLane 2: Rat Small Intestine Tissue Lysate at 50ugLane 3: Rat Liver Tissue Lysate at 50ugLane 4: Rat Kidney Tissue Lysate at 50ugLane 5: SGC Whole Cell Lysate at 40ugLane 6: COLO320 Whole Cell Lysate at 40ugLane 7: SMMC Whole Cell Lysate at 40ugLane 8: PANC Whole Cell Lysate at 40ugLane 9: HELA Whole Cell Lysate at 40ugPredicted bind size: 21KDObserved bind size: 21KD

Anti-Cytoglobin Antibody - Background

Cytoglobin(CYGB), also called HGB or STAP, is a ubiquitously expressed hexacoordinate hemoglobin that may facilitate diffusion of oxygen through tissues, scavenge nitric oxide or other reactive oxygen species, or serve a protective function during oxidative stress. The cytoglobin gene is mapped on 17q25.1. The CYGB gene contains 4 exons and spans about 9 kb. Cytoglobin has many elements common to vertebrate globins, including invariant histidine residues, and the amino acids that form the heme pocket share similarity with pentacoordinate myoglobin. In contrast to the high oxygen affinities displayed by most hexacoordinate hemoglobins, the characteristics of CYGB indicate that it can facilitate oxygen transport. Because the oxygen affinity of CYGB is more similar to myoglobin than to neuroglobin, and the oxy form of CYGB resists autooxidation, CYGB is proposed to represent a tissue oxygen reservoir by Sawai et al.