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Anti-Cytoglobin Picoband Antibody

Catalog # ABO10162

Specification

Anti-Cytoglobin Picoband Antibody - Product Information

Application	**WB, IHC-P**
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, IHC-P in Human;Mouse;Rat.

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

Anti-Cytoglobin Picoband 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
Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, Mouse, Rat, By Heat

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

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 NaN3.

Immunogen
E.coli-derived human Cytoglobin recombinant protein (Position: M1-P190). Human Cytoglobin shares 95.3% and 93.7% amino acid (aa) sequence identity with mouse and rat Cytoglobin, respectively.

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 Picoband 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.

Anti-Cytoglobin Picoband 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 Picoband Antibody - Images

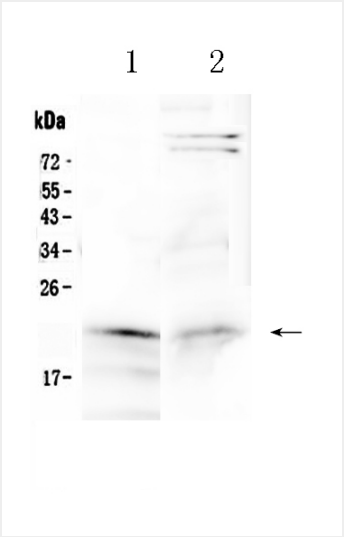

Figure 1. Western blot analysis of Cytoglobin using anti-Cytoglobin antibody (ABO10162). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions. Lane 1: rat small intestine tissue lysates, Lane 2: mouse small intestine tissue lysates, After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5% Non-fat Milk/ TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-Cytoglobin antigen affinity purified polyclonal antibody (Catalog # ABO10162) at 0.5 Î¼g/mL overnight at 4Â°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit with Tanon 5200 system. A specific band was detected for Cytoglobin at approximately 21KD. The expected band size for Cytoglobin is at 21KD.

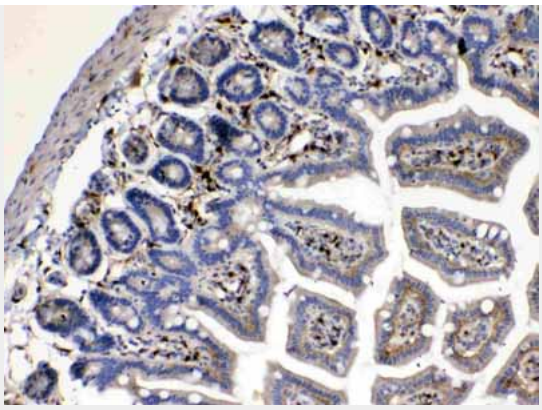

Figure 2. IHC analysis of Cytoglobin using anti- Cytoglobin antibody (ABO10162).Cytoglobin was detected in paraffin-embedded section of mouse intestine tissues. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1Î¼g/ml rabbit anti- Cytoglobin Antibody (ABO10162) overnight at 4Â°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37Â°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) with DAB as the chromogen.

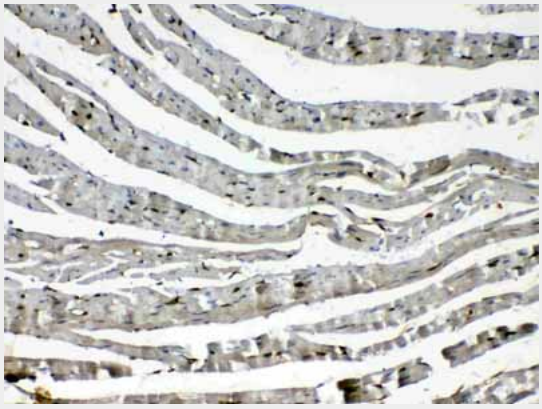

Figure 3. IHC analysis of Cytoglobin using anti- Cytoglobin antibody (ABO10162).Cytoglobin was detected in paraffin-embedded section of mouse cardiac muscle tissues. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1Î¼g/ml rabbit anti- Cytoglobin Antibody (ABO10162) overnight at 4Â°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37Â°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) with DAB as the chromogen.

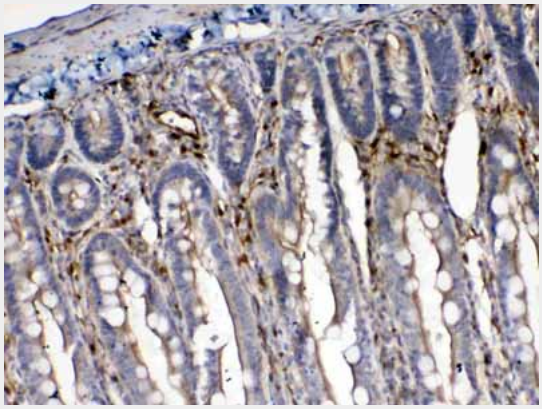

Figure 4. IHC analysis of Cytoglobin using anti- Cytoglobin antibody (ABO10162).Cytoglobin was

detected in paraffin-embedded section of rat intestine tissues. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1Î¼g/ml rabbit anti- Cytoglobin Antibody (ABO10162) overnight at 4Â°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37Â°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) with DAB as the chromogen.

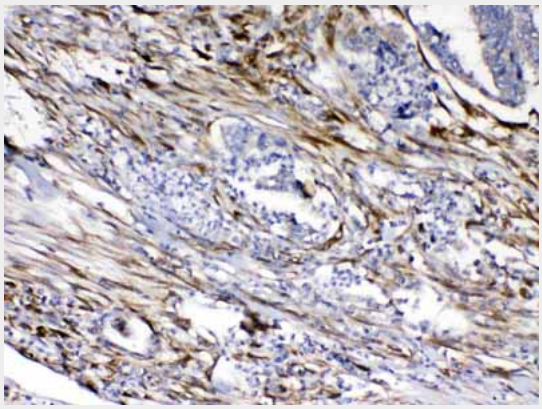

Figure 5. IHC analysis of Cytoglobin using anti- Cytoglobin antibody (ABO10162).Cytoglobin was detected in paraffin-embedded section of human intestinal cancer tissues. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1Î¼g/ml rabbit anti- Cytoglobin Antibody (ABO10162) overnight at 4Â°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37Â°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) with DAB as the chromogen.

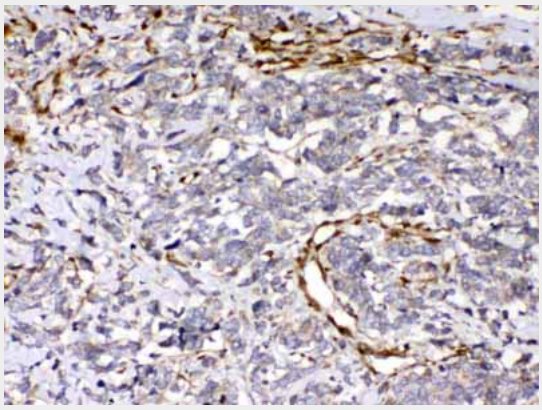

Figure 6. IHC analysis of Cytoglobin using anti- Cytoglobin antibody (ABO10162).Cytoglobin was detected in paraffin-embedded section of human lung cancer tissues. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1Î¼g/ml rabbit anti- Cytoglobin Antibody (ABO10162) overnight at 4Â°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37Â°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) with DAB as the chromogen.

Anti-Cytoglobin Picoband 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.