

cytoglobin (D-7): sc-365246

BACKGROUND

Hemoglobin, myoglobin, neuroglobin, and cytoglobin belong to the globin family, porphyrin-containing proteins that function in oxygen transport and storage. Myoglobin contributes to intracellular oxygen storage and transcellular-facilitated diffusion of oxygen in skeletal and cardiac muscle. Neuroglobin is an oxidative stress-responsive sensor for signal transduction in the brain. Hemoglobin contributes to oxygen storage and diffusion of oxygen in blood tissue. Cytoglobin (also designated histoglobins or STAP), is a ubiquitous protein that facilitates diffusion of oxygen through tissues and acts as a scavenger for nitric oxide or other reactive oxygen species. It binds O₂ via its heme and also has a protective function during oxidative stress. Cytoglobin, a hexacoordinate hemoglobin, shares less than 30% identity with other human hemoglobins and is widely expressed in a wide array of tissues including fibroblasts and nerve cell populations.

CHROMOSOMAL LOCATION

Genetic locus: CYGB (human) mapping to 17q25.1.

SOURCE

cytoglobin (D-7) is a mouse monoclonal antibody raised against amino acids 1-190 representing full length cytoglobin of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

cytoglobin (D-7) is available conjugated to agarose (sc-365246 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365246 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365246 PE), fluorescein (sc-365246 FITC), Alexa Fluor® 488 (sc-365246 AF488), Alexa Fluor® 546 (sc-365246 AF546), Alexa Fluor® 594 (sc-365246 AF594) or Alexa Fluor® 647 (sc-365246 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365246 AF680) or Alexa Fluor® 790 (sc-365246 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

cytoglobin (D-7) is recommended for detection of cytoglobin of human origin by Western Blotting (starting dilution 1:100, 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 cytoglobin siRNA (h): sc-45547, cytoglobin shRNA Plasmid (h): sc-45547-SH and cytoglobin shRNA (h) Lentiviral Particles: sc-45547-V.

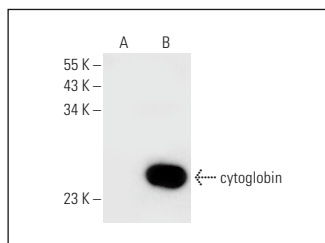
Molecular Weight of cytoglobin: 21 kDa.

Positive Controls: cytoglobin (h): 293T Lysate: sc-114314, Y79 cell lysate: sc-2240 or U-87 MG cell lysate: sc-2411.

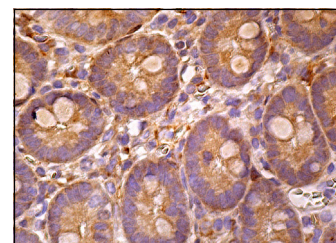
RECOMMENDED SUPPORT REAGENTS

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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ 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-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



cytoglobin (D-7): sc-365246. Western blot analysis of cytoglobin expression in non-transfected: sc-117752 (A) and human cytoglobin transfected: sc-114314 (B) 293T whole cell lysates.



cytoglobin (D-7): sc-365246. Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

- Feng, Y., et al. 2018. The epigenetically downregulated factor CYGB suppresses breast cancer through inhibition of glucose metabolism. J. Exp. Clin. Cancer Res. 37: 313.
- Zhang, J., et al. 2019. Cytoglobin ameliorates the stemness of hepatocellular carcinoma via coupling oxidative-nitrosative stress signals. Mol. Carcinog. 58: 334-343.
- Randi, E.B., et al. 2020. The anti-oxidative role of cytoglobin in podocytes: implications for a role in chronic kidney disease. Antioxid. Redox Signal. 32: 1155-1171.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.