

IgG (MH16-1): sc-52336

BACKGROUND

IgG is a monomeric immunoglobulin. It is the most abundant immunoglobulin and is found in the blood and extracellular fluid. There are four subclasses of IgG: IgG₁, IgG₂, IgG₃ and IgG₄. IgG is composed of two heavy chains (γ chains) and two light (κ or λ) chains. The chains form two domains, the Fab (antigen binding) fragment and the Fc (constant) fragment. Each IgG Fab fragment has two antigen binding sites. IgG molecules are involved in secondary immune response. They bind to several different kinds of pathogens, such as viruses, bacteria and fungi, and protect the body by complement activation (the classic pathway), opsonization for phagocytosis and neutralization of toxins. In addition, IgG is the only isotype that can pass through the placenta, thereby providing protection to the fetus in the first weeks of life, before the immune system of the fetus has developed.

REFERENCES

- Marennikova, S.S., et al. 1982. Preparation and comparative evaluation of peroxidase conjugates based on pure antibodies and the IgG Fab fragment. *Zh. Mikrobiol. Epidemiol. Immunobiol.* 9: 99-103.
- Sterz, R., et al. 1986. Effector mechanisms in myasthenia gravis: end-plate function after passive transfer of IgG, Fab, and F(ab')₂ hybrid molecules. *Muscle Nerve* 9: 306-312.
- Snydelaar Hardwicke, A.C. and Carlson, J.H. 1987. Comparison of IgG Fab conjugates for bluetongue antibody detection by the ELISA. *Rev. Latinoam. Microbiol.* 29: 153-155.
- Aguilar, L., et al. 2005. F(ab')₂ antibody fragments against *Trypanosoma cruzi* calreticulin inhibit its interaction with the first component of human complement. *Biol. Res.* 38: 187-195.
- Chu, X.X., et al. 2006. Effects of IgG and its F(ab')₂ fragments of some patients with idiopathic thrombocytopenic purpura on platelet aggregation. *Eur. J. Haematol.* 76: 153-159.
- Li, J., et al. 2006. Site-specific conjugation of bifunctional chelator BAT to mouse IgG₁ Fab' fragment. *Acta Pharmacol. Sin.* 27: 237-241.
- Mancini, N., et al. 2006. Cloning and molecular characterization of a human recombinant IgG Fab binding to the Tat protein of human immunodeficiency virus type 1 (HIV-1) derived from the repertoire of a seronegative patient. *Mol. Immunol.* 43: 1363-1369.
- Redwan, R.M. 2006. Comparison between therapeutic antitoxin F(ab)₂ fractionated with ammonium sulfate and caprylic acid. *J. Immunoassay Immunochem.* 27: 319-329.
- Younus, H., et al. 2006. Investigation of conformational changes induced by binding of pancreatic RNase to anti-RNase IgG derived Fab monomer using optical procedures. *Biochemistry* 71: 218-221.

SOURCE

IgG (MH16-1) is a mouse monoclonal antibody raised against isolated IgG of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains IgG₁ in 500 μ l of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

IgG (MH16-1) is recommended for detection of IgG of human origin by immunofluorescence (starting dilution to be determined by researcher, dilution range 1:10-1:200) and immunohistochemistry (including paraffin-embedded sections) (starting dilution to be determined by researcher, dilution range 1:10-1:200).

Molecular Weight of IgG light chain: 25 kDa.

Molecular Weight of IgG heavy chain: 50 kDa.

SELECT PRODUCT CITATIONS

- Mu, S., et al. 2011. Epigenetic modulation of the renal β -adrenergic-WNK4 pathway in salt-sensitive hypertension. *Nat. Med.* 17: 573-580.
- Tang, M., et al. 2014. The role of mitochondrial aconitate (ACO2) in human sperm motility. *Syst. Biol. Reprod. Med.* 60: 251-256.
- Zhang, P. and Ma, X. 2015. Effect of rutin on spinal cord injury through inhibition of the expression of MIP-2 and activation of MMP-9, and down-regulation of Akt phosphorylation. *Mol. Med. Rep.* 12: 7554-7560.
- Zhou, J., et al. 2017. KLF15 regulates dopamine D2 receptor and participates in mouse models of neuropathic pain. *Biochem. Biophys. Res. Commun.* 492: 269-274.
- Tian, W.L., et al. 2017. IRF9 inhibits human acute myeloid leukemia through the SIRT1-p53 signaling pathway. *FEBS Lett.* E-published.
- Tian, W.L., et al. 2018. The IRF9-SIRT1-P53 axis is involved in the growth of human acute myeloid leukemia. *Exp. Cell Res.* 365: 185-193.
- Shin, H.J., et al. 2021. Lipocalin-2 deficiency reduces oxidative stress and neuroinflammation and results in attenuation of kainic acid-induced hippocampal cell death. *Antioxidants* 10: 100.
- Fan, W., et al. 2022. Estrogen receptor β activation inhibits colitis by promoting NLRP6-mediated autophagy. *Cell Rep.* 41: 111454.
- Zang, L., et al. 2022. Ubiquitin-specific protease 24 promotes EV71 infection by restricting K63-linked polyubiquitination of TBK1. *Viro. Sin.* E-published.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

PROTOCOLS

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