



# IgG Fab fragment (2A11): sc-52000

## 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 the IgG: IgG<sub>1</sub>, IgG<sub>2</sub>, IgG<sub>3</sub> and IgG<sub>4</sub>. IgG is composed of two heavy chains (γ-chains) and two light chains (κ or λ). 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, for example 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 its first weeks of life before its own immune system has developed.

## REFERENCES

1. Marennikova, S.S., et al. 1983. Preparation and comparative evaluation of peroxidase conjugates based on pure antibodies and the IgG Fab fragment. *Zh. Mikrobiol. Epidemiol. Immunobiol.* 9: 99-103.
2. Sterz, R., et al. 1986. Effector mechanisms in myasthenia gravis: end-plate function after passive transfer of IgG, Fab, and F(ab')<sub>2</sub> hybrid molecules. *Muscle Nerve* 9: 306-312.
3. Snyderlaar Hardwicke, A.C. and Carlson, J.H. 1988. Comparison of IgG Fab conjugates for bluetongue antibody detection by the ELISA. *Rev. Latinoam. Microbiol.* 29: 153-155.
4. Aguilar, L., et al. 2005. F(ab')<sub>2</sub> antibody fragments against *Trypanosoma cruzi* calreticulin inhibit its interaction with the first component of human complement. *Biol. Res.* 38: 187-195.
5. Chu, X.X., et al. 2006. Effects of IgG and its F(ab')<sub>2</sub> fragments of some patients with idiopathic thrombocytopenic purpura on platelet aggregation. *Eur. J. Haematol.* 76: 153-159.
6. Li, J., et al. 2006. Site-specific conjugation of bifunctional chelator BAT to mouse IgG<sub>1</sub> Fab' fragment. *Acta Pharmacol. Sin.* 27: 237-241.
7. 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.
8. Redwan, el-R.M. 2006. Comparison between therapeutic antitoxin F(ab)<sub>2</sub> fractionated with ammonium sulfate and caprylic acid. *J. Immunoassay Immunochem.* 27: 319-329.
9. 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 Fab fragment (2A11) is a mouse monoclonal antibody raised against IgG of human origin.

## RESEARCH USE

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

## PRODUCT

Each vial contains 100 µg IgG<sub>2b</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

IgG Fab fragment (2A11) is recommended for detection of Fab-region of IgG of human origin by solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of IgG Fab fragment: 36 kDa.

## SELECT PRODUCT CITATIONS

1. Chen, X.X., et al. 2019. Coculture with bone marrow-derived mesenchymal stem cells attenuates inflammation and apoptosis in lipopolysaccharide-stimulated alveolar epithelial cells via enhanced secretion of keratinocyte growth factor and angiopoietin-1 modulating the Toll-like receptor-4 signal pathway. *Mol. Med. Rep.* 19: 1891-1902.

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.