

IgG₁ (14G11): sc-69916

BACKGROUND

IgG is a monomeric immunoglobulin composed of two heavy chains and two light chains. There are four subclasses of IgG: IgG₁, IgG₂, IgG₃ and IgG₄. Each molecule has two antigen binding sites. IgG is the most abundant immunoglobulin as well as 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. IgG can bind to several different kinds of pathogens, for example viruses, bacteria, and fungi, and it protects the body against them by complement activation (the classic pathway), opsonization for phagocytosis, and neutralization of their toxins.

REFERENCES

1. Adetugbo, K. 1978. Evolution of immunoglobulin subclasses. Primary structure of a murine myeloma γ 1 chain. *J. Biol. Chem.* 253: 6068-6075.
2. Tucker, P.W., Marcu, K.B., Slightom, J.L. and Blattner, F.R. 1979. Structure of the constant and 3' untranslated regions of the murine γ 2b heavy chain messenger RNA. *Science* 206: 1299-1303.
3. Rabbitts, T.H., Forster, A., Dunnick, W. and Bentley, D.L. 1980. The role of gene deletion in the immunoglobulin heavy chain switch. *Nature* 283: 351-356.
4. Sakano, H., Maki, R., Kurosawa, Y., Roeder, W. and Tonegawa, S. 1980. Two types of somatic recombination are necessary for the generation of complete immunoglobulin heavy-chain genes. *Nature* 286: 676-683.
5. Goldsby, R., Kindt, T. and Osborne, B. 1992. *Immunology*. New York: W.H. Freeman and Company.
6. Wuhler, M., Stam, J.C., van de Geijn, F.E., Koeleman, C.A., Verrips, C.T., Dolhain, R.J., Hokke, C.H. and Deelder, A.M. 2007. Glycosylation profiling of immunoglobulin G (IgG) subclasses from human serum. *Proteomics* 7: 4070-4081.
7. Nair, N., Gans, H., Lew-Yasukawa, L., Long-Wagar, A.C., Arvin, A. and Griffin, D.E. 2007. Age-dependent differences in IgG isotype and avidity induced by measles vaccine received during the first year of life. *J. Infect. Dis.* 196: 1339-1345.
8. Fuchs, S., Feferman, T., Zhu, K.Y., Meidler, R., Margalit, R., Wang, N., Laub, O. and Souroujon, M.C. 2007. Suppression of experimental autoimmune myasthenia gravis by intravenous immunoglobulin and isolation of a disease-specific IgG fraction. *Ann. N.Y. Acad. Sci.* 1110: 550-558.

CHROMOSOMAL LOCATION

Genetic locus: IgH γ 1 (mouse) mapping to 12 F1.

SOURCE

IgG₁ (14G11) is a rat monoclonal antibody raised against IgG₁ of mouse origin.

PRODUCT

Each vial contains 100 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

IgG₁ (14G11) is recommended for detection of IgG₁ of mouse origin by solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with mouse IgG₂, IgG₃.

Molecular Weight of IgG₁: 41 kDa.

SELECT PRODUCT CITATIONS

1. Gourbeyre, P., Desbuides, N., Grémy, G., Le Gall, S., Champ, M., Denery-Papini, S. and Bodinier, M. 2012. Exposure to a galactooligosaccharides/inulin prebiotic mix at different developmental time points differentially modulates immune responses in mice. *J. Agric. Food Chem.* 60: 11942-11951.
2. Song, R., Wei, X., Wang, Y., Hu, S., Ba, Y., Xiao, X. and Zhang, J. 2020. Insulinoma-associated protein 1 controls nasopharyngeal carcinoma to radiotherapy by modulating cyclin D1-dependent DNA repair machinery. *Carcinogenesis* 41: 326-333.
3. Margalit, L., Strauss, C., Tal, A. and Schlesinger, S. 2020. Trim24 and Trim33 play a role in epigenetic silencing of retroviruses in embryonic stem cells. *Viruses* 12: 1015.
4. Yang, X., Du, H., Bian, W., Li, Q. and Sun, H. 2021. FOXD3-AS1/miR-128-3p/LIMK1 axis regulates cervical cancer progression. *Oncol. Rep.* 45: 62.

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.