SANTA CRUZ BIOTECHNOLOGY, INC.

IgG_3 (5G12): sc-52006

BACKGROUND

IgG is a monomeric immunoglobulin composed of two heavy chains and two light chains. There are four subclasses of the IgG: IgG_1, IgG_2, IgG_3 and IgG_4. 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., et al. 1978. Evolution of immunoglobulin subclasses. Primary structure of a murine myeloma γ1 chain. J. Biol. Chem. 253: 6068-6075.
2. Rabbitts, T.H., et al. 1980. The role of gene deletion in the immunoglobulin heavy chain switch. Nature 283: 351-356.
3. Sakano, H., et al. 1980. Two types of somatic recombination are necessary for the generation of complete immunoglobulin heavy-chain genes. Nature 286: 676-683.
4. Abdelmoula, M., et al. 1989. IgG_3 is the major source of cryoglobulins in mice. J. Immunol. 143: 526-532.
5. Hendriks, R.W., et al. 1989. Inheritance of a large deletion within the human immunoglobulin heavy chain constant region gene complex and immunological implications. Scand. J. Immunol. 29: 535-541.
6. Papadea, C., et al. 1989. Human immunoglobulin G and immunoglobulin G subclasses: biochemical, genetic, and clinical aspects. Crit. Rev. Clin. Lab. Sci. 27: 27-58.
7. Spiegelberg, H.L., et al. 1989. Biological role of different antibody classes. Int. Arch. Allergy Appl. Immunol. 90: 22-27.
8. Goldsby, R., et al. 1992. Immunology. New York: W.H. Freeman and Company.
9. Wuhrer, M., et al. 2007. Glycosylation profiling of immunoglobulin G (IgG) subclasses from human serum. Proteomics 7: 4070-4081.

CHROMOSOMAL LOCATION

Genetic locus: IGHG3 (human) mapping to 14q32.33.

SOURCE

IgG_3 (5G12) is a mouse monoclonal antibody raised against IgG_3 of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

IgG_3 (5G12) is recommended for detection of hinge-region of IgG_3 of human origin by solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of IgG_3: 36 kDa.

SELECT PRODUCT CITATIONS

1. Sartelet, H., et al. 2011. Activation of the phosphatidylinositol 3'-kinase/AKT pathway in neuroblastoma and its regulation by thioredoxin 1. Hum. Pathol. 42: 1727-1739.

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.