

# IgG<sub>4</sub> (5C3): sc-69919

## BACKGROUND

The regions of relatively constant sequence beyond the variable regions of immunoglobulins are termed constant regions (C regions) and are present in both the heavy and light chains. With very few exceptions, the sites of attachment for carbohydrates on immunoglobulins are located in these C regions. These regions also function to hold the variable regions together by using the disulfide bond between them. The C regions facilitate interaction with the antigen by increasing the maximum rotation of the immunoglobulin arms. Several studies have shown that a large population of patients with recurrent respiratory tract infection have low IgG<sub>4</sub> concentrations.

## REFERENCES

1. Adetugbo, K., et al. 1978. Evolution of immunoglobulin subclasses. Primary structure of a murine myeloma  $\gamma$ 1 chain. J. Biol. Chem. 253: 6068-6075.
2. Tucker, P.W., et al. 1979. Structure of the constant and 3' untranslated regions of the murine  $\gamma$ 2b heavy chain messenger RNA. Science 206: 1299-1303.
3. Rabbitts, T.H., et al. 1980. The role of gene deletion in the immunoglobulin heavy chain switch. Nature 283: 351-356.
4. 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.
5. Ellison, J., et al. 1981. Nucleotide sequence of a human immunoglobulin C  $\gamma$ 4 gene. DNA 1: 11-18.
6. Kirsch, I.R., et al. 1982. Human immunoglobulin heavy chain genes map to a region of translocations in malignant B lymphocytes. Science 216: 301-303.
7. Bech-Hansen, N.T., et al. 1983. Restriction fragment length polymorphisms associated with immunoglobulin C  $\gamma$  genes reveal linkage disequilibrium and genomic organization. Proc. Natl. Acad. Sci. USA 80: 6952-6956.
8. Goldsby, R., et al. 1992. Immunology. New York: W.H. Freeman and Company.

## CHROMOSOMAL LOCATION

Genetic locus: IGHG4 (human) mapping to 14q13.

## SOURCE

IgG<sub>4</sub> (5C3) is a mouse monoclonal antibody raised against IgG<sub>4</sub> of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG<sub>1</sub> 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<sub>4</sub> (5C3) is recommended for detection of IgG<sub>4</sub> of human origin by solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with human IgA, IgE, IgG<sub>1</sub>, IgG<sub>2</sub>, IgG<sub>3</sub> or IgM.

## SELECT PRODUCT CITATIONS

1. Cai, Y.L., et al. 2016. IgG<sub>4</sub>-related inflammatory pseudotumor of the kidney mimicking renal cell carcinoma: a case report. Oncol. Lett. 11: 3438-3440.

## RESEARCH USE

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

## PROTOCOLS

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