

# IgG<sub>2a</sub> (MRG2a-83): sc-53740

## BACKGROUND

IgG is a monomeric immunoglobulin composed of two heavy chains and two light chains. There are 4 subclasses of IgG: IgG<sub>1</sub>, IgG<sub>2</sub>, IgG<sub>3</sub> and IgG<sub>4</sub>. 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

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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. Goldsby, R., et al. 1992. *Immunology*. New York: W.H. Freeman and Company.
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7. Nair, N., et al. 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.
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## CHROMOSOMAL LOCATION

Genetic locus: Igh-1a (rat) mapping to 6q32.

## SOURCE

IgG<sub>2a</sub> (MRG2a-83) is a mouse monoclonal antibody raised against mixed immunoglobulins of rat origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2a</sub> in 1.0 mL 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.

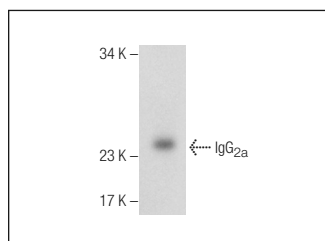
## APPLICATIONS

IgG<sub>2a</sub> (MRG2a-83) is recommended for detection of IgG<sub>2a</sub> of rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)] and flow cytometry (1  $\mu$ g per 1 x 10<sup>6</sup> cells); non cross-reactive with other isotypes.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

## DATA



IgG<sub>2a</sub> (MRG2a-83): sc-53740. Western blot analysis of IgG<sub>2a</sub> expression in rat liver tissue extract.

## 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) or our catalog for detailed protocols and support products.