

<b>Antigen</b>	Human Blood Group B
<b>Clone</b>	BGRL 2
<b>Product Code</b>	9432
<b>Immunoglobulin Class</b>	Mouse IgG1, kappa light chain

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## Antigen Description and Distribution

The histo-blood group B antigen is defined by the carbohydrate structure at the non-reducing termini of oligosaccharide chains of glycoproteins and glycolipids. Carbohydrate chains are synthesized by the action of  $\alpha$ -D-galactosyltransferase, which catalyzes the transfer of D-galactose monosaccharide to an acceptor substrate called the H antigen.

The structure of the B antigen is  $\text{Gal}(\alpha 1-3)\text{Gal}(\beta 1-3)\text{GlcNAc-R}$   
|  $\text{Fuc}(\alpha 1-2)$

ABO, of which the B antigen is part of, is the most important blood group system from the clinical blood transfusion perspective. Approximate frequencies of ABO phenotypes in southern England are as follows: O 43%, A 45%, B 8% and AB 4%; but frequencies vary throughout the world. The B antigen is widely distributed on erythrocytes, cells and tissues, and is present, in soluble form, in body fluids of B positive individuals. About 20% of group B people secrete no B substance because their secretions contain no H antigen although they are still blood group B because the H antigen is still present on their erythrocytes. In a rare phenotype, the Bombay phenotype, no H is present in secretions or on the erythrocytes and consequently no A or B are present.

## Clone

BGRL 2 was made in response to immunization with blood group B erythrocytes. BGRL 2 directly agglutinates blood group B erythrocytes.

## Further Reading

1. Anstee DJ, Cartron J-P. (1997) Towards an understanding of the red cell surface. In: Garratty G, ed. Applications of molecular biology to transfusion medicine: 17-49. American Association of Blood Banks, Bethesda, MD.
2. Daniels G. Daniels G. (2013) Human blood groups (third Ed.). Blackwell Publishing Ltd.
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4. Mollison PL, Engelfriet CP, Contreras M. (1997) Blood Transfusion in clinical medicine. 10th edn. Blackwell Science, Oxford.
5. Reid ME, Lomas-Francis C. and Olsson M. (2012) The blood group antigen facts book. Academic Press, London, Third Ed.