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 α-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 Gal(α1-3)Gal(β1-3)GlcNAc-R | Fuc (α1-2)

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