The Scianna is the 13th blood group system recognized by the International Society of Blood Transfusion (ISBT). This system is denominated by SC and now consists of 7 antigens (Ag’s) located in a single-pass transmembrane glycoprotein, designated by ERMAP.

**HISTORY**

**REFERENCES**


Sc1 and Sc2 identified as antithetical. The Scianna system.

1973

When the Sc4 Ag was first described, it was thought to constitute a new blood group – Radin. But the connection between Radin and SC was proven later, making Rd the fourth Ag from the SC blood group.

1962

The term Sc-3 is introduced. Description of the anti-Sc3 antibody.

1988

Relation of anti-Sc2 with HDFN.

2001

Discovery of the Sc5 (STAR), Sc6 (SCER) and Sc7 (SCAN) Ag’s, deducted in 1988.

2003

Association of ERMAP to the Scianna system.

2005

**ANTIGENS**

**GENE AND PROTEIN**

The Ag’s are located in a single-pass transmembrane glycoprotein from the immunoglobulin superfamily, designated by ERMAP (erythroblast membrane-associated protein).

ERMAP’s function is still unknown, although it is thought to be a mediator of cell adhesion and may act as a specific signalling receptor and transducer for RBC’s.

It is expressed mainly in RBC’s but may be weakly expressed in leukocytes, thymus, lymph nodes and spleen. It is also present in fetal liver and adult BM.

This protein is encoded by the SC (ERMAP) gene, located in the short (p) arm of chromosome 1 at position 34.2 (1p34.2).

The polymorphisms in this gene are responsible for the Scianna system.

**CLINICAL SIGNIFICANCE**

The Scianna system has an ambiguous role in clinical transfusion practice, even though case reports of haemolytic diseases related to Sc variants exist.

Ms. Scianna was a patient that suffered from HDFN even though the neonate was ABO compatible. The search for low prevalence Ag’s in this case is what came to define the 13th lucky blood group.

Various cases in which the alloantibodies catalogued may attribute clinical significance to Sc antibodies have been reported since. However, only 2 cases relate sufficient information for that matter. These antibodies are not routinely characterized. However, in the future, the transfusion community may turn this into standard clinical practice.

The Scianna system is highly prevalent in the population. The Ag’s are encoded by the SC (ERMAP) gene, located on the short (p) arm of chromosome 1 at position 34.2 (1p34.2).

**References**


