Leukocyte Adhesion Deficiency (LAD) Markers

General information

Leucocyte adhesion deficiency (LAD) is a rare autosomal recessive disorder that is characterised by the inability of neutrophils to migrate from blood vessels to the sites of infection.

Patients with LAD present with a marked leucocytosis and recurrent infections. In the neonate with LAD a presenting feature is a delay in the separation of the umbilical cord.

The primary mechanism for neutrophil adhesion to vascular endothelium is β2-integrin, LFA-1 (CD11a/CD18) and Mac-1 (CD11b/CD18) being the two dominant subunits, and LAD type I is due to a deficiency of these surface markers.

Assay interferences: Older samples may exhibit loss of surface antigens and therefore the sample should be as fresh as possible.

Laboratory information

Analytes: CD11a, CD11b and CD18

Units: %

Specimen type: Peripheral blood - EDTA

Method: Flow cytometry

Reference range: Normal expression >90% for each marker

Specimen transport: At room temperature.

Repeat frequency: Repeat only indicated following bone marrow transplantation of an affected individual.

Turnaround times: 1-2 routine working days, Assay run daily Monday to Friday 09:00-15:00

Participation in EQA scheme: No formal EQA scheme is possible (as a fresh sample is required). Internal QA is performed by periodically re-testing well-defined patients with the condition.

Clinical information

Interpretation of results: A relevant interpretive comment will be added by the laboratory.

(Last updated October 2023)