Platelet Glycoprotein Expression

General information

Platelet glycoprotein expression is useful in the diagnosis of Glanzmann's thrombasthenia and BernardSoulier syndrome. These hereditary platelet disorders are characterised by selective deficiencies of platelet membrane glycoproteins.

Specimen transport: At room temperature

Repeat frequency: At significant change of clinical symptoms

Special precautions: The assay should be carried out on blood that is < 24 hours old. Samples can be stored at 4°C prior to analysis. Blood should be taken in to sodium citrate anticoagulant.

Laboratory information

Normal range: >90% positive platelets

Volume and sample type: 5ml citrate blood

Method: Flow cytometric analysis of CD41, CD42b & CD61

Turnaround time (calendar days from sample receipt to authorised result): Median – 2

Participation in EQA Scheme: No formal scheme available. We perform a clinical review of abnormal results against other laboratory data and clinical information to assure results fit with the clinical diagnosis.

Clinical information

Indications for the test: Prolonged bleeding in infancy, haemorrhage, family history

Factors affecting the test: This assay is not recommended for patients with thrombocytopenia (<100 x 10^9/L)

Interpretation: In Bernard-Soulier syndrome GPIb/IX/V (CD42b) is absent or dysfunctional. In Glanzmann thrombasthenia GPIIb/IIIa (CD41/CD61) is absent or dysfunctional. A mild decrease in the expression suggest a variant or heterozygous state.

The CD61 clone (SZ21) bears the platelet alloantigen PlA1 (HPA-1a). Used in flow cytometry, it shows a markedly reduced reactivity with platelets bearing the PlA2 (HPA-1b) allele. As described in the IFU, studies indicate that 70% of individuals are PlA1/PlA1, 27% PlA1/PlA2, and 3% PlA2/PlA2. Therefore, reduced CD61 binding may be observed in a percentage of healthy individuals.

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