
Lab Dept: Transfusion Services

Test Name: IRRADIATED BLOOD

General Information

Lab Order Codes: Specify on Transfusion Request Order Form - when requesting blood products. Refer to [Instructions for Placing Transfusion Orders](#).

Synonyms: Irradiated Blood Components

CPT Codes: 86945 – Irradiation of blood product, each unit

Test Includes: Irradiation of cellular blood components (RBC's, Platelets, Granulocytes.) with a gamma radiation source, Cesium-137

Logistics

Test Indications: Refer to [Guidelines for the Transfusion of Blood Components](#) for greater detail.

Lab Testing Sections: Transfusion Service

Phone Numbers: MIN Lab: 612-813-6824

STP Lab: 651-220-6558

Test Availability: Daily, 24 hours

Turnaround Time: 15 minutes additional product preparation time

Special Instructions: Include in provider's instructions the Transfusion Request Order Form.

Specimen

Specimen Type: Not required

Interpretive

Reference Range: Graft-vs-Host Disease (GVHD) occurs when viable lymphocytes are transfused into severely immunosuppressed patients. The patient is unable to destroy these incoming lymphocytes, and they attack the host cells, recognizing them as foreign. GVHD also occurs after allogeneic bone marrow transplantation. GVHD may occur in immunocompetent patients if they receive blood from a blood relative who is homozygous for an HLA haplotype for which the patient is heterozygous. Preventive irradiation is done in the case of directed donations from blood relatives, even if the HLA types are unknown. Irradiation has little effect on RBC's

and none on platelets. Current methodologies of leukocyte reduction of red cell and platelet blood components are not adequate to prevent GVHD.

Granuloctyes must be irradiated for all patients regardless of immune status.

Limitations:

Irradiation causes premature release of potassium from red cells. After irradiation, shelf life is reduced to 28 days.

Methodology:

Irradiation of blood leads to non-viability of donor lymphocytes. A central targeted dose of 2500 Gy, minimum of 1500 Gy to all areas using a Cesium 137 radiation source.

Contraindications:

Not indicated for FFP/FP or cryoprecipitate

References:

Technical Manual, Current Edition, Bethesda, MD: AABB