

---

**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, X-Ray

---

***Logistics***

**Test Indications:** Refer to [Guidelines for Transfusion](#) 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 X-Ray radiation source.

**Contraindications:**

Not indicated for FFP/FP or cryoprecipitate

**References:**

Technical Manual, Current Edition, Bethesda, MD: AABB