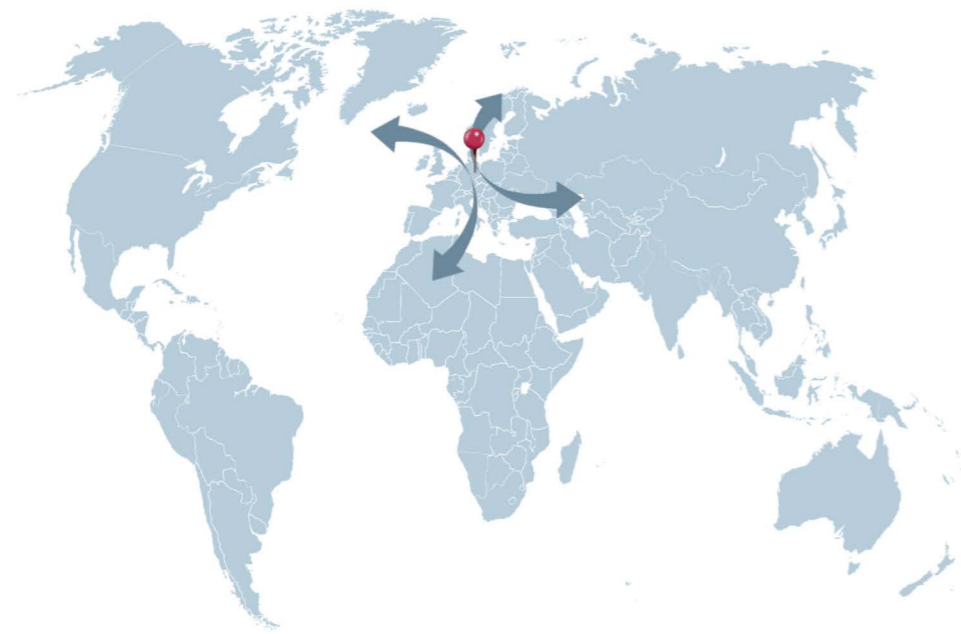


GSR C1

Blood Irradiation



Contact:

Gamma-Service Medical GmbH
Bautzner Str. 67A
04347 Leipzig
Germany
Telephone: +49 341 46372-800
Telefax: +49 341 46372-822
Email: gsm-contact@ezag.com
Internet: www.gamma-medical.de



GSR C1 Blood Irradiation

The main fields...

... of GSR C1 comprise gamma-irradiation of:

- Blood and blood derivatives
- Cell cultures
- Transplants

Gamma-irradiation prevents the partitionability of immuno-competent cells. The transmission of these cells, without irradiation, can cause serious and often mortal complications – Graft-versus-host-disease (GVHD) – for immunodeficient patients.

Other fields of application...

... exist in the scope of radiobiological research:

- In-vitro-analysis of radiosensitivity of peripheric and modulated blood cells
- Identification of histocompatibility via an analysis of the lymphocyte culture
- Analysis – after irradiation – of the molecular mechanism in the case of diseases which are connected with a defect of the enzyme system

Standard equipment

The self-shielded GSR C1 contains up to 4 Cs-137 sources with a maximum total activity of up to 189 TBq. The half-life period of Cs-137 is about 30,2 years.

Radiation protection

The dose rate of $< 5 \mu\text{Sv/h}$ at the surface of the irradiation device is far below the regulated limit value.



Our customer service...

... includes:

- Maintenance
- Dosimetry
- Control of medical electrical devices according to EN 62353 (DIN VDE 0751-1)
- After sales service for the whole lifetime of the unit

Operation

The user positions the irradiation good in the stainless steel irradiation beaker and puts it in the rotatable irradiation chamber. The complete closure of the door is checked automatically. The opening of the door is not possible during irradiation.

On the touch screen you set the irradiation parameters. After the manual starting of irradiation the irradiation beaker will be located directly in front of the radiation sources during the set irradiation period. The beaker rotates with approx. 20 rpm.

Delivery

The irradiation device is delivered in a licensed B(U) type transport packaging.

Scope of delivery

- Manual
- Dosimetry protocol
- Certificate of the radioactive source(s) with control of leak tightness
- Special form certificate
- 2 irradiation beakers
- Barcode reader and printer for comfortable irradiation documentation

Safety features

- Key switch
- Irradiation in progress continues for up to 30 min, in case of power failure
- Removal of the irradiation load also in case of system failure
- Interdependent locking of loading hatch and irradiation chamber
- Monitoring and control of irradiation parameters
- The C1 computer system continually saves all data relevant to the irradiation process

TECHNICAL DATA

Irradiation unit

Weight	2200 kg
External dimension	Height: 1700 mm Width: 680 mm Depth: 720 mm
Recommended room size	min. 2 m x 2 m
Electrical supply	100 - 240 V
Frequenz	50 / 60 Hz
Room temperature	+ 15 up to + 35 °C
Battery back-up	Yes
Authorisation	CE, CFDA, ANVISA
Activity	up to 189 TBq

Central dose rate

90 TBq	approx. 4,5 Gy / min
120 TBq	approx. 6,0 Gy / min
180 TBq	approx. 11 Gy / min

Irradiation beaker

Volume	up to 3,8 l
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Source

Radionuclide	Cs-137
Surface dose rate	$< 5 \mu\text{Sv/h}$

Accessories optional

- PC set with DoseScanPRO Software

