

Adult Donor Cryopreserved Unit (ADCU): Results and Outcomes of the First Allogeneic Undirected Cryopreserved Hematopoietic Stem Cell Transplantations

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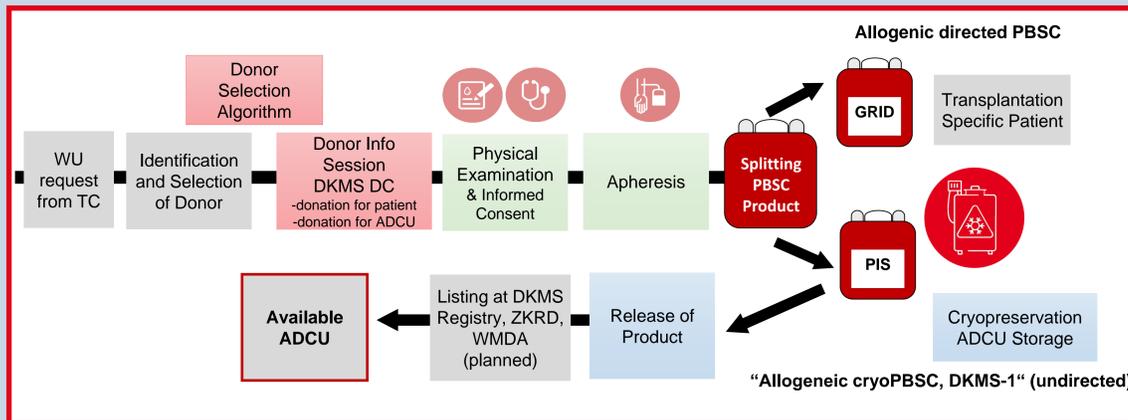
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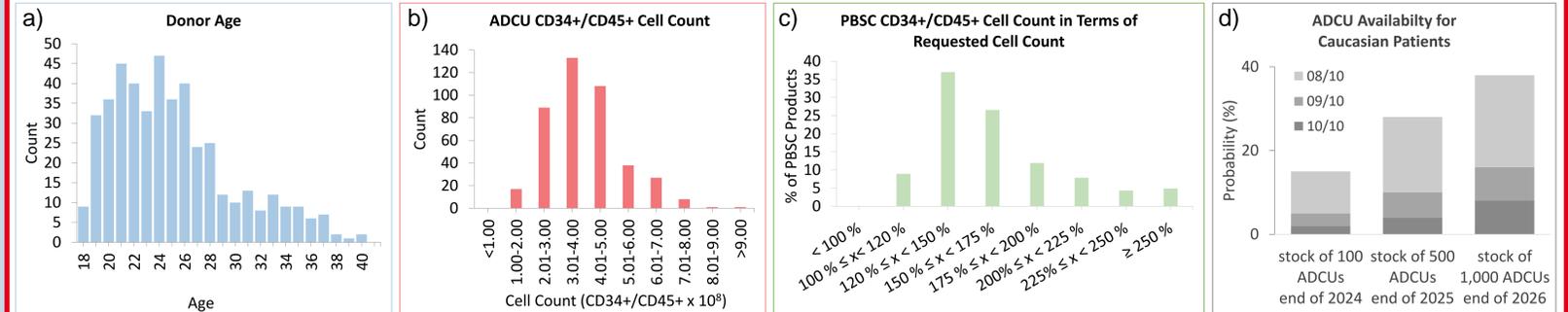
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Background

Adult Donor Cryopreserved Unit (ADCU) from unrelated donors provide an additional graft source for undirected hematopoietic stem cell transplantation. Surplus peripheral blood stem cells (PBSCs) during regular PBSC donation from suitable candidates (the donor selection algorithm takes into account donor-patient weight ratio, age, and frequency of HLA-profile), are cryopreserved, and stored as ADCU at the DKMS Stem Cell Bank (SCB). ADCUs are then available as an undirected stem cell source, characterized by explicit product specifications and readily available for transplantation.



ADCU Details

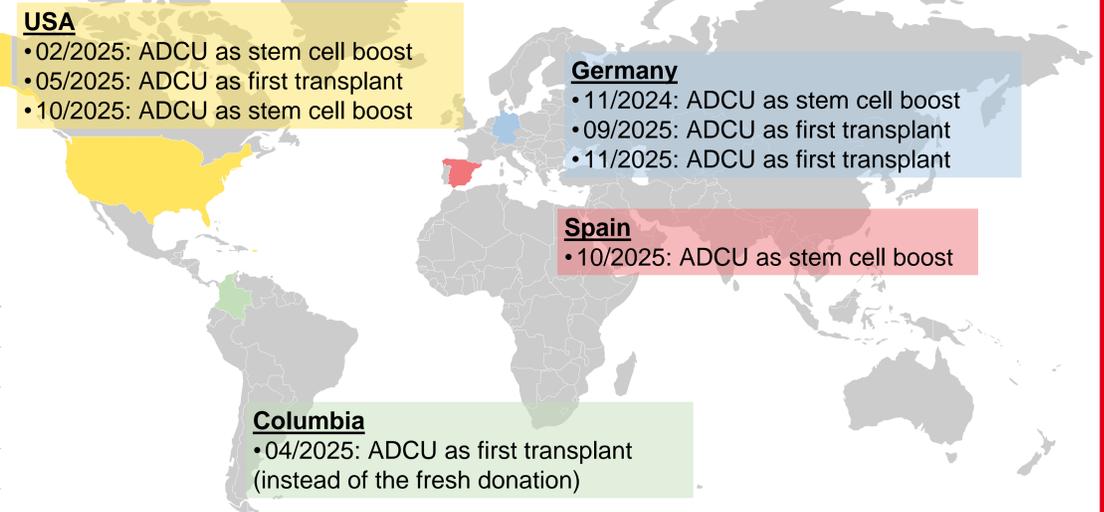


- a) ADCU donor age, average 24 years (90 % male donors)
- b) ADCU CD34+/CD45+ cell count
- c) PBSC CD34+/ CD45+ yield in terms of requested cell count (minimum +20 %)
- d) Availability depending on anticipated matching grade, based on search requests for Caucasians.

data as of 09/2025

Use Cases & Patient Scenarios

Patient No.	Patient Diagnosis	Age	Sex
1	AML	15	m
2	MFMM	71	m
3	AML	44	f
4	MDS	27	f
5	AML	59	m
6	AML	52	m
7	AML	71	m
8	MCL	69	m



Start ADCU Inventory	11/2023
Start ADCU Listing	01/2024
Total ADCU Listed	488 (01/2026)
First ADCU Shipment	11/2024
Total ADCU Shipments	8 (01/2026)

ADCU Product Characteristics

ADCU Product Characteristics	Median	Min	Max
Viable CD34 ⁺ /CD45 ⁺ cells (× 10 ⁸) *pre-freeze	3.83	1.01	10.31
Potential patient weight (kg) *target dose: 4 × 10 ⁶ cells / kg BW	96	25	258

- ADCU Volume: 2x 100 ± 4 mL
- DMSO concentration: 5 %
- Shelf-life: 36 months
- **listing of ADCUs and request of unit report** via DKMS Registry and German National Bone Marrow Donor Registry (ZKRD)
→ **USA**: NMDP search team has access to Donor Navigator to identify matching ADCUs

Advantages for Patients

- **significantly reduced time to transplant**
→ 100 % ADCU availability, shipped in ~3 days
→ emergency option
- **defined product specifications**, cell counts and product quality
- **optimized planning** according to patient's needs
- **fast 2nd transplant**, no additional donation and GCSF for donor needed

Conclusion

The first 8 ADCU transplantations represent an important milestone in the field of stem cell transplantation and demonstrate the relevance of this new graft source as an additional therapeutic option, especially in situations when timing is critical. The growing inventory of available ADCUs supports the realization of more efficient transplantations, by reducing time to transplant and enabling optimized planning, as products are immediately available and with known product specification. By donating two products in a single collection, donors potentially save two lives without the burden of additional GCSF administration.