

Differentiating Plasma from Blood

What is plasma?

- **Plasma** is the clear **straw-coloured liquid** portion of blood that remains after red blood cells, white blood cells, platelets and other cellular components have been removed.
- Plasma carries water, salts, and **proteins** through the body.
- Plasma is the **unique** starting material to manufacture **lifesaving therapies**: plasma-derived medicinal products (PDMPs).

55% of total blood volume is PLASMA

How plasma can be collected?

Plasma is a blood component. But it is unique and fundamentally different from blood in several ways:

- its composition
- the donation processes
- the complexity of medicines production



Plasma is

- 92%** Water
- 7%** Proteins
- 1%** Other solutions

The plasma donor's experience is very different from that of a blood donor:



Donating plasma is a more complex process than blood donation.



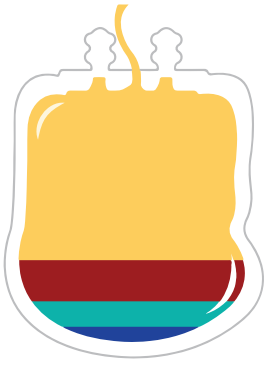
Plasma donors can give more frequently and larger volumes when donating plasma via plasmapheresis (direct donation called "source plasma").



Plasma donation via plasmapheresis requires a significant time commitment on the part of donors.

	Extraction	Donation	Frequency	Duration	Volume
SOURCE PLASMA	<p>Donor Centre</p> <p>Blood</p> <p>Plasma direct plasma donation used for making PDMPs</p>	<p>Plasma plasmapheresis</p>	<p>1 x weekly</p>	<p>90 min</p>	<p>~820ml</p>
RECOVERED PLASMA	<p>Donor Centre → Processing Centre</p> <p>Blood</p> <p>Plasma for hospital use (transfusion) + making PDMPs</p> <p>Red cells hospital use</p>	<p>Blood blood donation</p>	<p>4-6 x yearly</p>	<p>30 min</p>	<p>~250ml</p>

Plasma Protein Therapies and the Diseases They Treat



*Plasma Protein Yields
Per Litre of Plasma

- **Albumin** (25 grammes*)
Shock, burns, trauma, liver conditions, cardiopulmonary bypass surgery
- **IVIG (Intravenous Immunoglobulin)** (4 grammes*)
Primary immunodeficiencies, secondary antibody deficiencies, immune-mediated neurological diseases, primary thrombocytopenic purpura, other autoimmune diseases
- **Alpha-1 Antitrypsin** (0.15 to 0.30 grammes*)
Alpha-1 antitrypsin deficiency (Genetic COPD)
- **Coagulation Factors** (Factor VIII: 300-450 IUs, Factor IX: 180-200 IUs*)
Haemophilia A & B, von Willebrand disease, other bleeding disorders

Plasma-derived medicinal products



Plasma cannot be made in a laboratory.



PDMPs can only be made using human plasma that is given generously by healthy donors.



PDMPs are unique medicines made from a human-sourced starting material.



Without stable access to these treatments, many will not survive or will have a severely reduced quality of life.

300,000

Some 300,000 European rare disease patients rely on PDMPs every day to treat a range of critical medical conditions.

The unique nature of plasma used to manufacture PDMPs should be recognised in the current revision of the EU Blood legislation .

A renewed EU Blood legislation should:

Clarify the difference between

**whole blood used
for transfusion**

VS

**plasma used to
manufacture PDMPs**

This is the foundation of policies that will encourage the increased availability of plasma.

About PPTA

The Plasma Protein Therapeutics Association is the global industry trade association with a strong European presence representing the private sector manufacture of plasma-derived medicinal products (PDMPs) and privately-owned plasma donation centres, including more than 160 centres in Europe. PPTA is steadfast in its mission to promote the availability of and access to safe and effective plasma protein therapies for patients worldwide.