

PLASMA-X®



# PLASMAX LAB®

PLASMAX LAB is a Finnish startup company specializing in regenerative medicine technologies, with a primary focus on advanced PRP (Platelet-Rich Plasma) systems. The company develops and supplies the PLASMA-X PRP system — a high-quality, CE-certified solution designed to ensure consistency, safety, and superior platelet concentration for clinical use.

As an innovation-driven startup, PLASMAX LAB places strong emphasis on product development, continuously refining its PRP systems and exploring next-generation regenerative solutions. The company actively collaborates with medical professionals and research institutions to advance autologous therapies, supporting clinics and hospitals across orthopedics, dermatology, and aesthetic medicine.

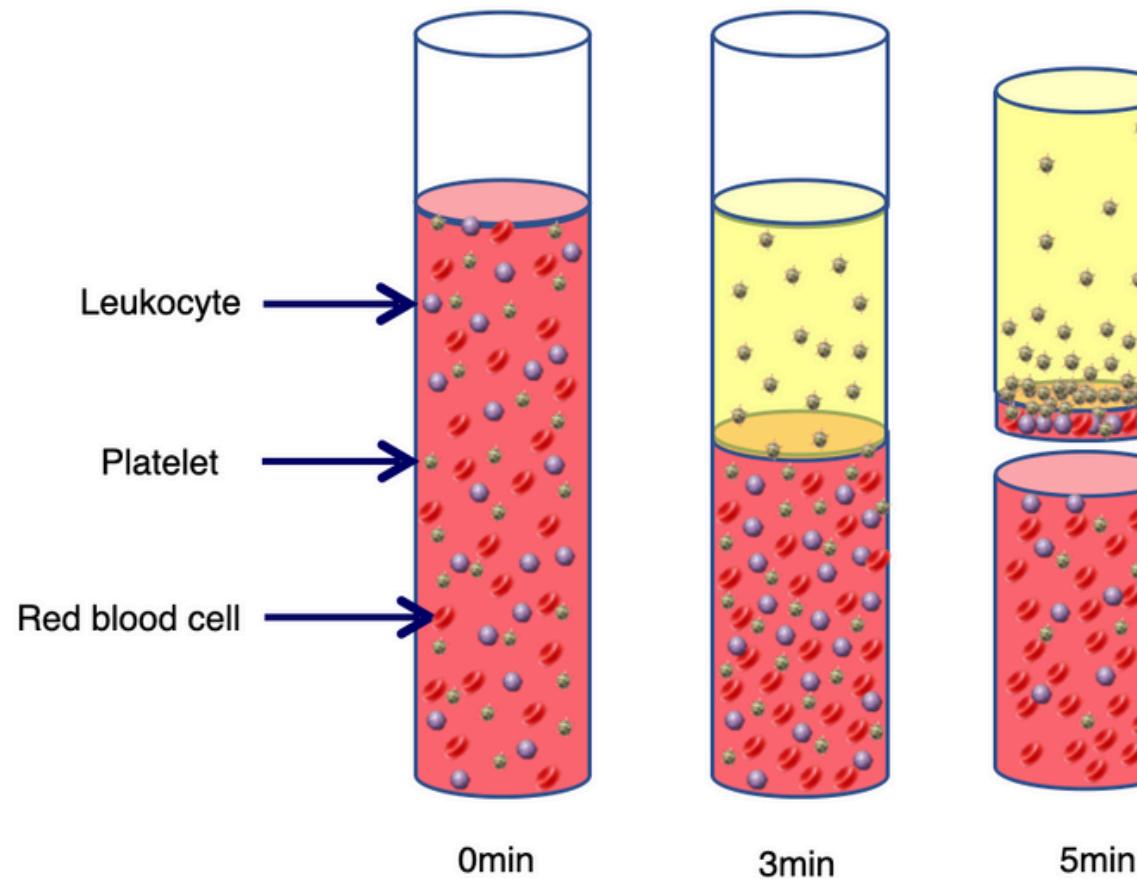
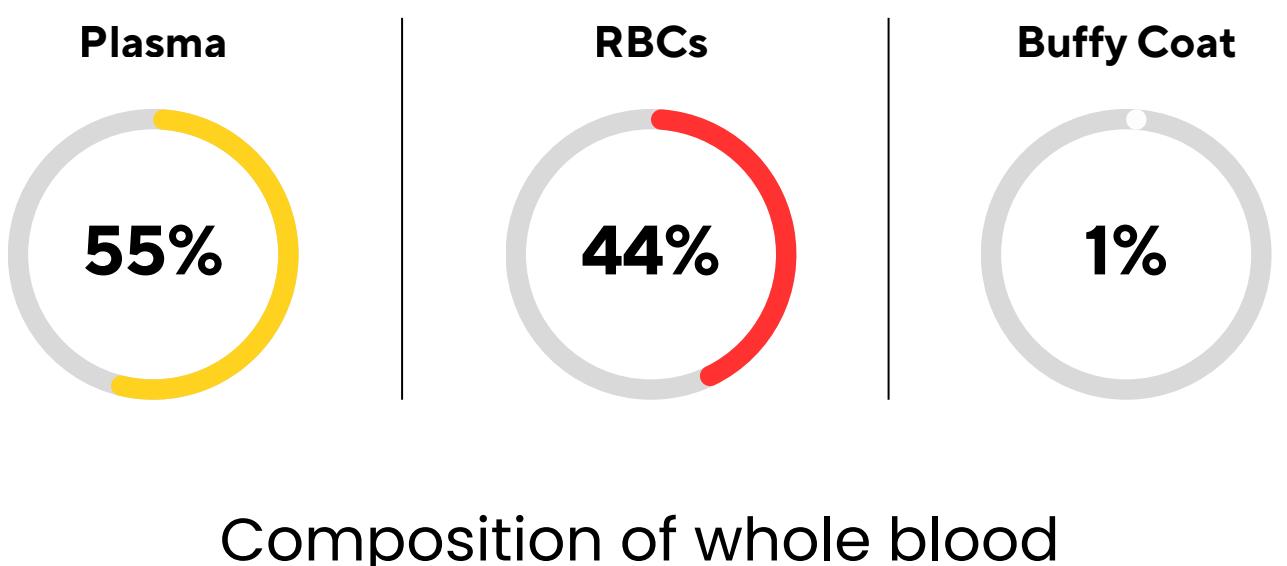
With a vision to become a leading global provider of regenerative solutions, PLASMAX LAB combines scientific research, technological innovation, and client-focused service to deliver reliable, evidence-based products that enhance patient outcomes.

INTRODUCTION	1
WHAT IS PRP?	3
PLASMA-X PRP	6
Certifications & Compliance	12
SCREW PUSHERS	13
CENTRIFUGE SYSTEM	15
Proven Versatility Across Clinical R&D	17
COLLABORATION & TRAINING	18



# What is PRP?

Platelet-rich plasma (PRP) is a concentrated solution of platelets obtained after the centrifugation of blood. By harnessing your body's own regenerative power, PRP promotes tissue repair, reduces inflammation, and supports cell growth.



## Platelets, body's natural repair mechanisms

In healthy individuals, the average platelet count in blood is around 200,000 platelet cells/ $\mu$ L. After centrifugation of blood, the platelets accumulate in a fraction known as PRP. Since this fraction contains a higher concentration of platelets, it enables healthcare professionals to stimulate the body's natural regeneration mechanisms.

## Bioactive Molecules that stimulates regeneration

Platelets contain over 300 bioactive molecules, including:  
Growth factors (PDGF, VEGF, TGF- $\beta$ )  
Cytokines  
Adhesion proteins

These stimulate tissue repair, collagen production, and angiogenesis — making PRP a powerful tool in aesthetic, orthopedic, ophthalmologic, and veterinary medicine.

## PRP Applications-Clinical Areas

### Aesthetics & Plastic Surgery

Skin rejuvenation, wrinkles, acne scars, hair loss, fat graft

### Orthopedics & Pain

Cartilage/ligament repair, tendonitis, post-operative pain, inflammation reduction, chronic pain, leg ulcers, burns

### Ophthalmology

Epithelial defects of the cornea, dry eye, ocular surface, post-laser surgery syndrome

### Veterinary

Tendon and ligament injuries, wound healing, osteoarthritis treatment

PRECISION. CONTROL. RESULT.

## PLASMA-X PRP

PLASMA-X PRP offers a complete and convenient solution for Platelet-Rich Plasma preparation. This all-in-one system includes all the necessary accessories for a streamlined workflow.

With a single centrifugation step, PLASMA-X PRP simplifies the process while maximizing platelet concentration. Its user-friendly design minimizes cell loss, ensuring optimal PRP quality.

Experience the ease and efficiency of PLASMA-X PRP for your regenerative medicine needs.



### Direct collection of PRP & PPP

Customizing plasma sample with leukocyte rich or poor plasma

### Visualizing buffy coat

Maximizing platelet counts and reduce blood cells

### Screw Pusher

Stable and easy control of blood cells, leading to consistent result

# WHY TO CHOOSE PLASMA-X ?



5 minutes of a single spin method makes the treatment in less time.



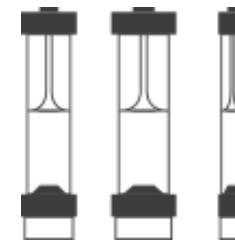
The unique funnel design visualises buffy coat layer and prevents cell loss



The closed system of PLASMA-X PRP is safe from contamination



The smart design of PRP system enables practitioner consistently obtain high quality PRP



Various PRP models (10, 20, 30, 60 cc) are available for your needs



PLASMA-X PRP is all in one pack for PRP preparation. It is designed for your easy PRP preparation and saving time

Note: Platelet concentration may vary depending on the plasma volume. The final PRP volume depends on the PRP tube size (10, 20, 30, and 60 mL).

**1 Single Spin**  
**5 min**

**Platelet Concentration**  
**3x - 12x**

**Recovery Rate**  
**> 80%**

**PRP Volume**  
**5-30 ml**

SIMPLE. FAST. ACCURATE.

## Step-by-Step Process

# PROTOCOL of PLASMA-X PRP



### 01 Blood Collection

Draw whole blood using a butterfly needle and transfer it into the PLASMA-X PRP tube containing anticoagulant



### 02 Centrifugation

Spin the tube once using a swing-out or fixed angle rotor centrifuge for 5 minutes.



### 03 Blood separation

After centrifugation, the blood is separated.

Top: Platelet-Poor Plasma (PPP)  
Middle: Buffy Coat (Platelet-Rich Plasma)  
Bottom: Red Blood Cells (RBCs)



#### 04 **Plug Screw Pusher Rotation**

Plug a screw pusher at bottom of the Plasma-X PRP Tube



#### 05 **PPP & PRP Collection**

Plug a screw pusher at bottom of the Plasma-X PRP Tube



#### 06 **PRP is ready for use**

DISCOVER

# Versatile Line-Up



## Tailored to Every Clinical Need

PLASMA-X PRP are in four tube sizes to suit different specialties and treatment volumes. Whether you perform a small facial injection or treating a large joint, there's a model for you.

## Summary Highlights

Sterilized by gamma ray  
Made under GMP conditions  
Delivered as complete kits (from blood collection to injection)

## Main features of PLASMA-X PRP SYSTEM

Model	PRP Volume	Platelet Concent.	Tube Size (cm)	Centrifuge Type	Clinical Use Examples
PXA-10	1-3 ml	Up to 8x	Ø1.6 x H12.9	Fixed angle Swing out	Facial aesthetics, hair, small grafts
PXA-20	2-10 ml	Up to 16x	Ø3.8 x H12.2	Swing out	Orthopedic injections, mesotherapy
PXA-30	3-15 ml	Up to 25x	Ø3.8 x H12.2	Swing out	Orthopedics, Fat grafting, microneedling, PRP gels
PXA-60	6-30 ml	Up to 48x	Ø3.8 x H12.7	Swing out	Orthopedics, Joint therapy, veterinary, multi-site use



Revolutionary All in One PRP System

# Certifications and Compliance



Approved for use in the European Union – meets essential health, safety, and environmental protection requirements.



PLASMA-X PRP is registered in EUDAMED (European Database on Medical Devices) in accordance with MDR (EU) 2017/745.



International standard for quality management in medical devices – ensures safety and consistency in manufacturing.



Licensed for clinical use in South Korea – regulatory clearance from Korea's FDA.

## Gamma Ray Sterilized

Tubes and kits are sterilized using gamma irradiation for maximum microbial safety.



# PLASMA-X®

## SCREW PUSHERS



10 20 30 60 ml

### **Layer-by-Layer Extraction:**

The screw pusher gently moves the plasma layers upward, allowing you to isolate PPP, PRP, and buffy coat with exceptional precision.

**Visual Control:** No guessing — the transparent design lets you visually identify the buffy coat zone for targeted PRP collection.

### **Reusable & Cost-Effective:**

The screw pusher is reusable. Simply match it with the corresponding syringe size (e.g. 10 ml or 30 ml), and it can be used across multiple PRP preparations — no need for disposable pushers each time.

### **Closed & Sterile Workflow:**

Keeps the process closed, safe, and contamination-free, maintaining the integrity of the platelet concentrate.

### **Compatible with All PLASMA-X Tubes:**

Each pusher is engineered to fit our tube, ensuring tight sealing and smooth pressure control.

FIXED ANGLE CENTRIFUGE

# PX50

Compact. Reliable. Clinic-friendly.

**Features:**

Max Speed: 3158 RPM  
Max RCF: 1800  $\times g$   
Timer Range: 0–99 min  
Motor: AC speed control motor  
Noise Level:  $\leq 65$  dB (A)

**Benefits:**

Fast acceleration and deceleration  
Built-in shock absorber = low vibration  
CE-marked.



**Tube compatibility:**  
PXA-10

**Rotor type:**  
Fixed angle





SWING-OUT

# PX100

Stability for high-volume PRP needs.

## Features:

Max Speed: 3158 RPM  
Max RCF: 1800  $\times g$   
Timer Range: 0–99 min  
Motor: Brushless AC motor with  
PWM control  
Noise Level:  $\leq 65$  dB (A)

## Benefits:

Swing rotor for horizontal separation  
Compatible with multiple rotor options  
Automatically balances loads during spin



**Tube compatibility:**  
All models (PXA-10 / 20 / 30 / 60)

**Rotor type:**  
Swing-out rotor

# Proven Versatility Across Clinical R&D

## 1. Effectiveness and Complications of Bone Marrow Aspirate Concentrate in Patients with Knee Osteoarthritis of Kellgren–Lawrence Grades II–III,

JH Baek, et al, *Midicina* 2024, 60(6), 977

## 2. The Effect of autologous platelet-rich plasma on bone regeneration by autologous mesenchymal stem cells loaded onto allogeneic cancellous bone granules, MW Joo, et al, *Cells Tissues Organs* 2017, 203, 327–338

## 3. Effect of autologous platelet-rich plasma application on cutaneous wound healing in dogs, CH Jee, et al, *J Vet Sci* 2016, 17(1), 79–87

## 4. Platelet-rich plasma protects hippocampal neurons and memory functions in a rat model of vascular dementia, JH Moon, et al, *Anat Cell Biol* 2024, 559–569

## 5. Pro-angiogenic effects of canine platelet-rich plasma: In vitro and In vivo evidence, SW An, et al, *Animals* 2025, 15(15), 2260

## 6. Comparing Biologic Factor Composition of Birth Tissue-Derived Allografts and Platelet-Rich Plasma, AJ Panero, *Cureus* 2025, 17(8): e90259

**Article**  
**Effectiveness and Complications of Bone Marrow Aspirate Concentrate in Patients with Knee Osteoarthritis of Kellgren–Lawrence Grades II–III**

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**Abstract:** This study aimed to identify the effectiveness and potential complications on the harvest site and knee of bone marrow aspirate concentrate (BMAC) treatment of patients with Kellgren–Lawrence (K–L) grades II–III knee osteoarthritis (OA) over a minimum follow-up period of 6 months. This study retrospectively evaluated data from 231 patients (285 knees) with knee OA treated with BMAC articular injection at a single center from August 2023 to October 2023. The inclusion criteria were a longstanding knee pain unresponsive to conservative treatments for at least 6 weeks with K–L grades II–III OA. The exclusion criteria were age of <40 years or >80 years, previous knee surgery, rheumatological or other systemic disease, malignancy, uncontrolled diabetes mellitus, or infections. Bone marrow was aspirated from the anterior iliac crest and concentrated by the single-spin centrifugation technique. The visual analog scale (VAS) pain score and Knee Society Score were used to evaluate the clinical outcomes and complications associated with harvest and injection sites were evaluated. The mean follow-up period was 7.2 months (range: 6–8 months). The pretreatment VAS pain score decreased from 4.3 to 0.4 points at the final follow-up ( $p < 0.05$ ). Pretreatment Knee Society knee and function scores were improved from 86.9 to 98.1 ( $p < 0.05$ ) and from 68.4 to 83.3 points ( $p < 0.05$ ), respectively. A total of 15 complications (5.3%, 15/285) were observed, including 3 hematomas, 2 numbness, 2 contact dermatitis, and 1 superficial infection in the harvest site and 4 mild and moderate swelling and 3 severe swelling and pain in the injection site. BMAC is a reliable and effective treatment for patients with K–L grades II–III knee OA, but the orthopedic surgeon should consider that bleeding tendency by heparin causes severe joint swelling and pain after intra-articular knee injection.

**Keywords:** effectiveness; complications; bone marrow aspirate concentrate

**1. Introduction**  
Knee osteoarthritis (OA) is a chronic degenerative disease-causing irreversible deterioration and articular cartilage loss in the entire joint and resulting in a poor quality of life [1]. Knee OA is the most prevalent degenerative joint disease that affects 3.8–16% of the population [2–4]. Current nonsurgical strategies, such as weight loss, physical therapy, medications, and intra-articular injections, are limited and mainly focus on diminishing symptoms and disability rather than curing OA itself [5]. Total knee arthroplasty (TKA), which is encumbered by several complications, is the definitive treatment for end-stage knee OA [6]. Thus, novel bioregenerative therapies, such as mesenchymal stem cells (MSCs), are an area of growing interest to delay or prevent TKA requirements.

MSCs, obtained from various sources, are multipotent cells that demonstrate the ability to repair compromised articular cartilage and slow knee OA progression [7–9]. MSCs have been applied in clinical practice since 1995, and bone marrow aspirate concentrate (BMAC) represents a safe and reliable source of MSCs. The advantage of BMAC is its



BOOK NOW

# Collaborate with PLASMA-X to progress your R&D idea

Are you a physician, clinician or research investigator working on regenerative medicine?

We support through:

1. Clinical Research Collaboration
2. Partnership/Pilot Program
3. R&D and Product Development Cooperation
4. Educational & Training Collaboration

## PRP Preparation Training

We offer hands-on training sessions for healthcare professionals (HCPs) to master the preparation of PRP using our innovative devices. These sessions are designed to learn a simple, standardized, and highly effective extraction method that ensures optimal platelet concentration and clinical results. Whether you're new to PRP or seeking to refine your technique, our training helps you gain confidence in every step — from blood collection to precise PRP isolation.

Our training sessions are available through interactive online sessions or hands-on courses on-site.



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