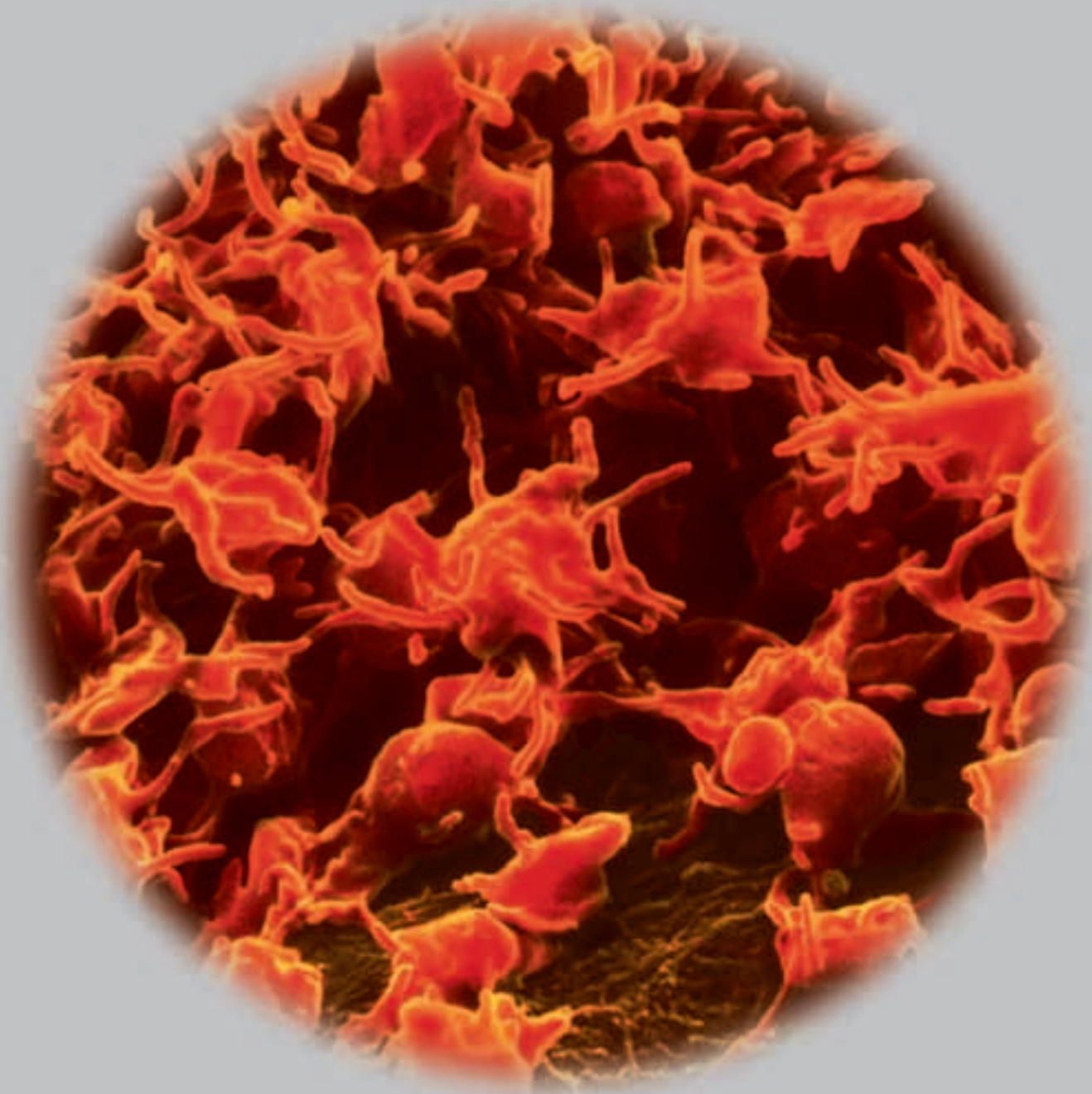


DEVELOPING TECHNOLOGIES FOR
ACCELERATING HEALING, NATURALLY™



HARVEST®

New Tissue Regeneration Technologies

“The use of growth factors from PRP added to bone grafts produces a quantifiably enhanced result in comparison to grafts performed without its use.”

**Robert E. Marx, DDS, OMF Surgeon, Arun K. Garg, DMD
University of Miami, FL**

“In addition to producing more consistent and measurably higher platelet counts, we found the SmartPReP greatly simplified the production of PRP when compared with general purpose centrifuges.”

Craig M. Misch, DDS, OMF Surgeon, Sarasota, FL

“Although PRP can be a useful addition to grafts and membrane materials, it is also possible to prepare a PRP-based membrane which helps stabilize particulate grafts, seal small perforations, and serve as a short-acting biologic membrane barrier.”

Charles A. Babbush, DDS, OMF Surgeon, Cleveland, OH

“We have evaluated all the techniques and systems available for obtaining PRP. We found SmartPReP the simplest-to-use and easiest to implement PRP system for the private practice environment.”

Michael A. Pikos, DDS, OMF Surgeon, Palm Harbor, FL

“PRP is not only an economically viable method for accelerating patient healing, but also an effective practice building tool.”

Paul S. Petrungaro, DDS, Periodontist, Stillwater, MN

“After adding PRP to the graft material, the fibrin formation binds the otherwise loose graft material together to assist the surgeon in sculpting the graft material.”

Marc L. Nevins, DMD, MMSc, Periodontist, Boston, MA

“Autologous platelet gels not only provide adhesive and hemostatic properties, but supply the wound valuable growth factors that enhance and promote the healing process.”

Stephen C. Adler, MD, Facial Plastic & Reconstructive Surgeon, Stuart, FL

“The use of growth factors from PRP on soft tissue healing is rapid and obvious. When using PRP, our patients experienced greater post-op comfort, reduction in pain medications and fewer post-op office visits.”

David E. Wilson, MD, ENT Surgeon, Indianapolis, IN

Platelet alpha granules contain potent growth factors necessary to begin tissue repair and regeneration at the wound site. Concentrated autologous platelets contain large reservoirs of growth factors that have the potential to greatly accelerate the normal healing process, naturally. The use of concentrated growth factors is considered by many to be a “new frontier” of clinical therapy and creates a paradigm shift affecting all segments of the medical profession.

NEW STANDARDS OF CARE

Leading clinicians in specialties such as dental, ENT, and facial plastic and reconstructive surgery routinely use concentrated platelets due to their ability to deliver a cocktail of bioactive growth factors. Growth factors shown to enhance the body’s natural healing process include:

- **Platelet Derived Growth Factors (PDGF)** initiate connective tissue healing including bone regeneration and repair.¹ PDGF also increases mitogenesis (healing cells), angiogenesis (endothelial mitosis into functioning capillaries), and macrophage activation (debridement of the wound site and second phase source of growth factors).²
- **Transforming Growth Factor Beta (TGF-β)** increases the chemotaxis and mitogenesis of osteoblast precursors and they also stimulate osteoblast deposition of the collagen matrix of wound healing and bone regeneration.³
- **Epidermal Growth Factors (EGF)** induce epithelial development and promote angiogenesis.⁴
- **Vascular Endothelial Growth Factors (VEGF)** have potent angiogenic, mitogenic, and vascular permeability-enhancing activities specific for endothelial cells.⁴

IMPROVING PATIENT OUTCOMES

Clinicians have reported that the use of growth factors from platelet rich plasma (PRP) can enhance:

- Bone Growth and Maturation
- Graft Stabilization
- Wound Sealing
- Wound Healing
- Hemostasis

1. Marx, R.E., et al, “Platelet-Rich Plasma Growth Factor Enhancement for Bone Grafts,” *Oral Surg Oral Med Oral Pathol*, 1998;85:638-646.
2. Antonaides, H.N., et al, “Human Platelet-Derived Growth Factor: Structure and Functions,” *Federation Proceedings*, 1983;42:2630-2634.
3. Pierce, G.F., et al, “PDGF-BB, TGF-β1 and Basic FGF in Dermal Wound Healing: Neovessel and Matrix Formation and Cessation Repair,” *Am J Pathology*, 1992;140:1375-1388.
4. “ELISA Immuno Assay For PDGF-A, Human VEGF, TGF-β1, and Human EGF,” R&D Systems, Mpls, MN 199.

SmartPReP™ The First and Only Automated PRP System

THE NATURAL CHOICE

- Predictable Platelet Yields
- Small Blood Sample
- Less Than 15 Minutes
- Simple Operation

PREDICTABILITY

SmartPReP's simple and automated process has been shown to capture exceptional platelet yields regardless of the patient's hematocrit or the level of the operator's experience.

SmartPReP's high platelet yields assures that greater than 4X the patient's baseline platelet count is easily achieved.

EXPERIENCE, FOCUS

Harvest Technologies has decades of cumulative experience designing, manufacturing and marketing devices for blood component separation and platelet sequestration. Our mission is focused on the development of unique, user-friendly technologies that improve surgical outcomes by accelerating the body's natural healing process.



SmartPReP Platelet Concentrate System Performance*

Average percent recovery of platelets from whole blood	68%	Growth Factors Derived from PRP (1300 x 10 ³ /μl) Mean (%) Increase Over Baseline	
Avg. platelet count/μl in 4 ml of concentrate	2,278,000	PDGF-AB	600%
Avg. platelet count/μl in 5 ml of concentrate	1,823,000	TGF-β1	727%
Avg. platelet count/μl in 6 ml of concentrate	1,519,000	VEGF	428%
Avg. platelet count/μl in 7 ml of concentrate	1,302,000	EGF	550%
Avg. platelet count/μl in 10 ml of concentrate	938,000		

* Data on file. Results may vary.

SmartPReP's gentle process cycle recovers approximately 800% more platelets while generating 50% less platelet activation (as measured with p-selectin expression) when compared with data reported for general purpose centrifuges.

SmartPReP™ Overcomes the Limitations of Existing PRP Systems



- **Speed of Preparation:** Produces PRP in a fraction of the time of other systems.
- **Operator Friendly:** No delicate product weighing or manipulating of blood bags required.
- **Automated:** Unique automated dual-spin process is easier-to-use than any of the more complex, time consuming systems.
- **Simple Logistics:** No scheduling of specialized or dedicated technicians.
- **Ease-of-Use:** Only requires simple syringe skills and ONE push of a button.
- **Simplicity:** All preparation components included in one convenient disposable kit.
- **Minimal Blood Draw:** The system requires only 50 cc of whole blood (3-10 cc of PRP) or 100 cc of whole blood (10-20 cc of PRP).
- **Platelet Viability:** Data has shown excellent platelet viability and growth factor integrity.
- **Low Cost:** Total process costs are lower than conventional systems.

Ordering Information

Product Code No.	Product Description	Product Code No.	Product Description
SMP-1000	SmartPReP Platelet Concentrate System 110V~ 50/60 Hz	PDR-1	SmartPReP Counter Balance Weight 1/each.
SMP-1000i	SmartPReP Platelet Concentrate System 240V~ 50/60 Hz	LK/2	SmartJet Liquid Applicator Kit Liquid delivery system. 5/case.
PRP-1	SmartPReP PRP Procedure Pack Includes components for 3-10 ml PRP. 3/case.	SK/S	SmartJet Spray Applicator Kit Spray delivery system. 5/case.
PRP-2	SmartPReP PRP Procedure Pack Includes components for 10-20 ml PRP. 3/case.	SC-2	SmartPReP PRP Workstation 1/each.

**To arrange an evaluation or for more information,
call 877-8-HARVEST (toll free) or visit us at www.harvesttech.com**

U.S. Disclaimer: Please be advised that in the United States the SmartPReP System, manufactured by Harvest Technologies Corporation, is cleared for use in the clinical laboratory or intraoperatively at point-of-care for the rapid preparation of platelet poor plasma and platelet concentrate from a small sample of blood. The plasma and concentrated platelets can be used for diagnostic tests or research. The FDA has not approved the SmartPReP for any other indication in the U.S., and we do not make any representations as to its safety of effectiveness for any other indications.

HARVEST®

Developing technologies for accelerating healing, naturally™

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ISO 9001 Registered