



## Proposed Procedure Osteokine® ProGen – Platelet Rich Plasma



Fig. 1: Osteokine® ProGen-Kit

- Osteokine® ProGen (A) with anticoagulant (PPS Natrium Citricum)
- Osteokine® ProGen (B)
- 30 mL syringe
- 10 mL syringe
- cannula (18G)
- luer caps
- combi cap
- luer luer adapters
- Sterifix airfilter
- balance tube
- presser foot

### 1. Blood withdrawal (routine aseptic technique)



Fig. 2: Inversion of blood filled device (A)

- Puncture jugular vein under aseptic conditions with 18 G cannula.
- Push up the plunger of the Osteokine® ProGen device (A) after unpacking it.
- Entirely fill the prefilled Osteokine® ProGen device (A) with venous whole blood by pulling back the plunger to the end of the device.
- Close the device with a white sterile cap and invert 10 times to ensure mixture of whole blood with prefilled anticoagulant (PPS-solution) (Fig. 2).
- Snap off the plunger.

## 2. First centrifugation

**CAUTION! Centrifuge break settings: slow or off. Use swing out buckets (50 mL)!**



Fig. 3: Placement in centrifuge



Fig. 4: Centrifuge settings

- Place the blood filled device (A) opposite the counterweight in the centrifuge (Fig. 3).
- As counterweight use 50 mL tube provided. Fill counterweight with 40 mL of water.
- Centrifuge at **900 g (RCF)** for **3 minutes**.

## 3. Separation of Red Blood Cells



Fig. 5: Device connection



Fig. 6: Presser foot

- Carefully remove the Osteokine®ProGen device (A) from the centrifuge and place it in the foreseen slotted spot of the box.
- Open device (A) and attach a luer-luer adapter.
- Attach the empty Osteokine®ProGen device (B) to the other side of the adapter (Fig. 5).
- Push the tapered end of device (A) into the presser foot to loosen the plunger (Fig. 6). Begin pulling back the plunger of device (B) at the same time.



Fig. 7a+b: Plasma transfer



Fig. 8: Air draw

- Transfer the upper yellow plasma into device ② by slowly pulling its plunger (Fig. 7a).
- Stop transfer when the buffy coat (white portion between RBCs and plasma) has reached mark 1 in device ① (Fig. 7b).
- Detach device ② including the luer-luer adapter. Attach the Sterifix filter to the adapter and draw back the plunger completely (Fig. 8).
- Exchange filter and adapter with a new white cap and snap off the plunger.

## 4. Second centrifugation

**CAUTION! Centrifuge break settings: slow or off. Use swing out buckets (50 mL)!**



Fig. 9: Counterweight



Fig. 10: Centrifuge settings

- Align volume of counterweight to device ② (Fig. 9).
- Place the device ② opposite the counterweight in the centrifuge.
- Centrifuge for **10 minutes** at **1300 g** (RCF).

## 5. Decantation of plasma supernatant and extraction of PRP



Fig. 11: Presser foot



Fig. 12: Plasma transfer

- Discard device (A).
- Carefully remove device (B) from centrifuge and place in the slotted spot of the box.
- Open device (B) and attach a new luer-luer adapter.
- Attach the 30 mL syringe to the other side of the adapter.
- Push the tapered end of device (B) into the presser foot to loosen the plunger (Fig. 11). Begin pulling back the plunger of the 30 mL syringe at the same time.
- Transfer the upper portion of the plasma (PPP) into the 30 mL syringe by pulling its plunger. Stop transfer when plunger reaches mark 4 in device (B) (Fig. 12).
- Exchange the 30 mL syringe with the air-filled (approx. 0.5 mL, check before unpacking, draw air if necessary while the blister is still sealed) 10 mL syringe and screw on tightly.
- Inject sterile air into device (B).



Fig. 13: Resuspension of platelets



Fig. 14: PRP harvest

- Vigorously shake the assembled system for 1 minute to resuspend the platelet pellet with the remaining plasma (Fig. 13).
- Harvest all PRP (approx. 4 mL) from device (B) holding it upside down. Make sure to hold the plunger in place when detaching the syringe from the adapter (Fig. 14).
- Close 10 mL syringe with red sterile cap until further use.



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