

# Preparation of autologous irap<sup>®</sup>-conditioned serum (ACS)

## 1. Blood sampling

### **Material:**

In addition to normal blood sampling equipment you will need:

- ✍ irap<sup>®</sup>50ml syringe set (Fig. 1)
  - syringe
  - green sealing cap
  - butterfly cannula
- ✍ Rack for irap<sup>®</sup>50ml syringes



Fig. 1: irap<sup>®</sup>50ml syringe set

### Instruction for blood sampling:

- ✍ Sample blood according to routine aseptic techniques (Fig. 2).
- ✍ **Gently** (hemolysis!) draw blood with irap<sup>®</sup>50ml syringe and pull plunger straight as it may snap off.
- ✍ Close blood filled syringe with green cap and make sure that it fits tightly to the luer lock.
- ✍ **Gently** invert the blood filled irap<sup>®</sup>50ml syringe several times.



Fig. 2: blood sampling

- ✍ Immediately label the syringe with: name, date and time.

## **2. Serum preparation**

**Note: Follow current safety regulations for blood handling.**

- ✍ **Schedule the processing in the order of the blood sampling.**
- ✍ **Process only one patient's samples at a time, avoid sample mix up.**
- ✍ **Document process in a lab diary with prenumbered pages.**

### **Equipment:**

- ✍ Lab diary for documentation
- ✍ Sharps bin
- ✍ Small white board to list patients in incubator

### **Material:**

- ✍ 5 ml luer lock syringes
- ✍ 20 ml or 30 ml syringes
- ✍ Packaging for serum filled 5 ml luer lock syringes
- ✍ Sterile caps for luer lock syringes
- ✍ Cannula, 1.5 x 100 mm
- ✍ Standard alcoholic disinfectant (obey IFU)
- ✍ Labels
- ✍ Sterile drape
- ✍ Sterile gloves
- ✍ Filter (0.22µm)

### **2.1 Incubation**

- ✍ Store blood filled irap syringes for 24 hrs at 37°C inside incubator (Fig 3 and 4).



Fig. 3: rack with blood filled irap syringe is placed in the incubator



Fig. 4: incubator

## 2.2 Centrifugation

- ✍ **Important:** make sure the green cap is locked tightly to luer lock to avoid leakage!



Fig. 5: blood filled irap<sup>®</sup>50ml syringe

- ✍ Break off the plunger (Fig 3).
- ✍ Load centrifuge with incubated irap<sup>®</sup>50ml syringes (Fig. 6).
- ✍ Load centrifuge symmetrically (Fig. 7).



Fig. 6: place syringe into the centrifuge



Fig. 7: a balance with water is placed in the centrifuge

- ✍ Centrifuge irap<sup>®</sup>50ml syringes at 3700-3800 rpm (3100 g) 10 min.
- ✍ Gently take irap<sup>®</sup>50ml syringe out of centrifuge and place in rack (Fig. 9)



Fig. 8: Centrifuge display – 3750 rpm – 10 min

- ✍ Note: A small spillage of blood in the rotor buckets does not pose a hazard to the serum product. However, please clean rotor immediately.

## 2.3 Serum extraction

**Note: The following procedures should be performed aseptically**

- ✍ Disinfect irap<sup>®</sup> 50ml syringe and syringe rack thoroughly and place on sterile drape.



Fig. 9: centrifuged irap<sup>®</sup> 50ml syringe

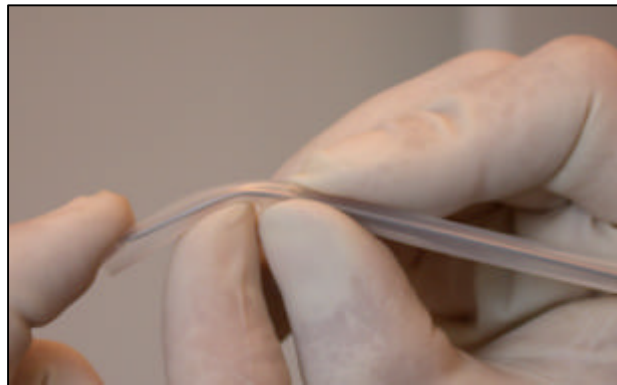


Fig. 10: bend cannula

- ✍ Bend 100 mm cannula slightly (Fig 10).
- ✍ Connect cannula with 20 ml syringe.
- ✍ Perforate black piston of irap<sup>®</sup> 50ml syringe and aspirate serum slowly (Fig. 11).
- ✍ DO NOT aspirate erythrocytes.



Fig. 11: aspiration of serum

- ✍ Pass the serum through filter (0.22µm) and adapter into 5 ml syringes (Fig. 12).



Fig. 12: transfer of serum

- ✍ Label the 5ml syringes with patient details and store at = -18°C until use.

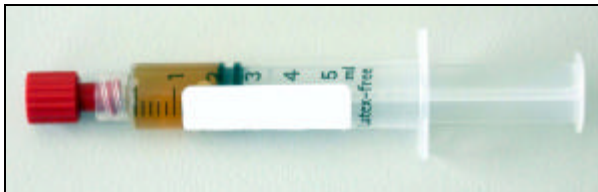


Fig 13: labelled 5 ml syringe

- ✍ Document the process in a lab diary (patient details, date, no of samples, ident of person).
- ✍ If necessary exchange sterile drape and sterile gloves for processing of further samples.
- ✍ Dispose of unused serum and document the disposal according to the applicable regulations.

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