Arthrex ACP®
Double Syringe

ACP
Autologous Conditioned Plasma
**Introduction**

Autologous blood products like blood plasma have created a growing interest for use in a number of orthopedic therapies. The healing effects of plasma are supported by growth factors released by platelets. The ACP (Autologous Conditioned Plasma) Double Syringe System is used for sterile separation of non-homogenous liquids. This device will allow the withdraw of blood from the human body using a commercially available cannula with LuerLock connection.

**Examples for Indication**

**Acute**
- Tendon rupture or tear e.g. achilles tendon, rotator cuff
- Ligament rupture or tear e.g. cruciate ligament, ankle ligaments
- Muscle tear
- Meniscal lesion

**Chronic**
- Osteoarthritis, cartilage lesion
- Tendinopathy e.g. Achilles tendon, elbow
- Tendon irritation e.g. Patellar tendon
- Plantar fasciitis irritation
- Subacromial syndrome

**Mechanism of ACP**

Using the described method with the Arthrex ACP Double Syringe to prepare blood, the plasma contains an increased plateled concentration of about 2 to 3 times. Outside the bloodstream, platelets become activated and release proteins for example growth factors. These growth factors are known to be relevant for healing in a variety of tissue types and they appear to work synergistically.

**Major effects of growth factors**
- Induce proliferation and differentiation of various cell types (e.g. osteoblasts, chondroblasts)
- Enhance production of matrix (e.g. collagen, proteoglycan production)
- Stimulate angiogenesis and chemotaxis

**Features and Benefits**

- Two in one - unique system for the preparation of Autologous Conditioned Plasma
- ACP preparation with the Arthrex ACP Double Syringe can be performed within minutes.
- The ACP System can be used in a clinic or under sterile conditions in an OR setting, as the whole preparation process takes place in a closed system.
- The Double Syringe design allows for easy, convenient and safe handling.

As described in several studies the white blood cells are not concentrated using the ACP Double Syringe and the described spin regime. The supernatant should not contain red blood cells.

The addition of ACP significantly increased the cell proliferation of muscle, tendon and bone cells. Moreover the positive effect of ACP on cartilage lesion has been demonstrated in an animal model and in a clinical study. A case series showed statistically significant improvements with ACP for chronic Achilles tendinopathy in terms of pain, activities of daily living, sports activities and quality of life. Another case series showed a statistically significant reduction of pain with ACP for chronic plantar fasciitis.
Accessoires: ACP Double Syringe, red cap, anticoagulant (optional), centrifuge, bucket, counterweight

**Note:** Take the double syringe out of the packaging, tighten the inner syringe (turn it clockwise) and push both plungers forward until the stop.

**Optional:** Withdraw approximately 1.5 ml anticoagulant into the syringe by drawing back only the plunger of the outer syringe that is colored red. If the ACP is injected within 30 minutes after withdrawing, the use of anticoagulant is not required.

Slowly and carefully withdraw the blood by pulling back on the wings that are colored red. Fill the syringe to a maximum of 15 ml of venous blood and seal the syringe with the red cap.

Using an anticoagulant gently rotate the syringe in order to mix blood and anticoagulant.

Place the syringe into one bucket and close the bucket with the lid. Under sterile conditions place the double syringe in the sterilized bucket and an appropriate counterweight is inserted in the opposite bucket.

Run the centrifuge at 1500 rpm for 5 minutes.

**Note:** Remove the syringe taking care to keep it in an upright position (red cap downwards) to avoid mixing.

In order to transfer the supernatant (ACP) from the larger outer syringe into the small inner syringe, slowly push down on the outer syringe while slowly pulling up the plunger of the small inner syringe.

Unscrew the small inner syringe and place a needle onto it. The ACP is ready for use at the point of care.

**Optional:** Transfer the ACP in a sterile cup for intraoperative usage.
## Ordering Information

<table>
<thead>
<tr>
<th>Description</th>
<th>Item number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arthrex ACP Kit, Series I</td>
<td>ABS-10011</td>
</tr>
<tr>
<td>Arthrex ACP Kit, Series II</td>
<td>ABS-10012</td>
</tr>
<tr>
<td>Arthrex ACP Double Syringe</td>
<td>ABS-10014</td>
</tr>
<tr>
<td>Centrifuge Hettich Rotofix 32 with Swing Out Rotor, 220 V</td>
<td>1206-Art</td>
</tr>
<tr>
<td>Centrifuge Hettich Rotofix 32 with Swing Out Rotor 1324, 110 V</td>
<td>1206-01-Art</td>
</tr>
<tr>
<td>Bucket with Screw Cap for Centrifuge (spare)</td>
<td>ABS-10022</td>
</tr>
<tr>
<td>Screw Cap for ABS-10022 (spare)</td>
<td>ABS-10023</td>
</tr>
<tr>
<td>Counterweight for Centrifugation of ACP Double Syringe, 15 ml</td>
<td>ABS-10027</td>
</tr>
<tr>
<td>ViscoGel High Viscosity Ratio Applicator with 10 cm Mixing Tip</td>
<td>ABS-10050</td>
</tr>
<tr>
<td>ViscoSpray Low Viscosity Ratio Applicator with 3 cm Mixing/Spray Tip</td>
<td>ABS-10051</td>
</tr>
<tr>
<td>Fenestrated Delivery Needle</td>
<td>ABS-20000</td>
</tr>
<tr>
<td>Tuohy Delivery Needle, 17 Gauge 16”</td>
<td>ABS-21000</td>
</tr>
<tr>
<td>Cart for Centrifuge</td>
<td>AR-5995-ABS01</td>
</tr>
</tbody>
</table>

An anticoagulant can be purchased on request.

## References


© Arthrex GmbH, 2014. All rights reserved. LABS2-003-EN_K