**Other Names** | AT III Immuno
---|---
**Consent Required** | Yes

<table>
<thead>
<tr>
<th>Pre-Transfusion Sample</th>
<th>Not Required</th>
</tr>
</thead>
</table>
**Approval Requirements** | Hematopathologist approval is required for first time request of AT III. |

**Product Description**
Sterile, stable, purified, freeze-dried concentrate of antithrombin (AT) prepared from pooled human plasma. Contains no preservatives. Heat treated to reduce viral transmission. Available vial size 1000 IU. Supplied as a lyophilized product with sterile water diluent. Reconstituted in Transfusion Medicine and issued in a syringe or transfer bag as requested by clinical staff.

**Clinical Indications**
Licensed indications include prophylaxis and treatment of thrombotic and thromboembolic disorders in patients with hereditary AT deficiency (AT activity below 70% of normal). Surgical procedures, or pregnancy and delivery in patients with congenital AT deficiency.

**Contraindications**
Contraindicated in patients with:
- Hypersensitivity to the product
- Known history of heparin-induced thrombocytopenia

**Risks**
Allergic reactions, anaphylactic reactions, transmission of infection. Antithrombin should be given to a pregnant or lactating woman only if clearly needed. A few children have been treated with Antithrombin, but safety and effectiveness in children have not yet been established.

**Dosage**

1. **Disseminated Intravascular Coagulation (DIC)**
Dosage should be based on determination of the patient's AT activity prior to therapy and thereafter at intervals of approximately 4-6 hours. The initial dose should be large enough to raise the plasma-level into the normal range (80-120%). Additional doses are required whenever the AT III activity has dropped to less than 70%.

   In patients with an acute consumption of AT, dosage calculations can be based on the formula:
   \[ \text{Dose (units)} = \frac{[\text{desired AT III activity (%)} - \text{baseline AT III activity (%)}] \times \text{body weight (kg)}}{1\%} \]
   **NOTE:**
   - In cases of acute consumption of AT III (DIC), the half-life may be reduced to only a few hours.
   - When using AT III in combination with heparin, it must be taken into account that the anticoagulant effect of heparin is potentiated by AT III.

2. **Other Antithrombin Defects**
As a guideline, in an average sized adult an initial dose of 1500 IU and a maintenance dose of one half the initial dose given at 8 to 24 hour intervals, is suggested. However, the dosage should be adjusted to individual needs, which can only be estimated by determination of the patient's AT activity at regular intervals. In the absence of an acute consumption of AT, dosage calculations can be based on the formula:
   \[ \text{Dose (units)} = \frac{[\text{desired AT III activity (%)} - \text{baseline AT III activity (%)}}{2\%} \]

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### Administration

<table>
<thead>
<tr>
<th>Action</th>
<th>Description</th>
</tr>
</thead>
</table>
| Administer | Pre medications as ordered. Refer to:  
- Procedure: Administering Medications Using IV Push Method  
- Product monograph |
| Administer | AT by direct intravenous push, via syringe method or via volumetric method. If the syringe or volumetric method is used, ensure tubing is well flushed following AT infusion. Note: AT must be administered immediately after arrival in patient care unit. |

### Compatible Solution

- The manufacturer does not recommend any compatible fluids.  
- Flush the line before and after administration with 0.9% Normal Saline only.

### Infusion Rates

- For ECLS patients: Follow ECLS guideline for administration rate.  
- Infant/Pediatric/Adult: The intravenous injection or infusion rate must not exceed 5 mL/min (300 mL/h)

### Monitoring

<table>
<thead>
<tr>
<th>Action</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monitor</td>
<td>Patient for signs and symptoms of reactions for at least 20 minutes following administration. Signs and symptoms of adverse reaction include, but are not limited to, hives, rash, itching, burning and stinging at the infusion site, angiodema, flushing, headache, hypotension, lethargy, nausea, restlessness, tachycardia, tingling, vomiting, wheezing and shock. In the event of a suspected transfusion reaction, STOP the transfusion and refer to Transfusion Reaction Procedure &amp; Quick Reference guide and complete Transfusion Reaction Report Form. Measure AT activity level prior to therapy and every 4-6 hours after initiation of therapy.</td>
</tr>
</tbody>
</table>

### Storage Conditions

<table>
<thead>
<tr>
<th>Action</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Store</td>
<td>in a monitored blood product storage refrigerator at 1 – 6 ºC in TML. Once reconstituted, ATII is stored at room temperature and must be administered ASAP. Return AT and Transfusion Record to Transfusion Medicine immediately if there are any delays in administration. Do NOT refrigerate on nursing unit.</td>
</tr>
</tbody>
</table>

### References


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**Developed By**  
Transfusion Safety Nurse Clinician

**Version History**

<table>
<thead>
<tr>
<th>DATE</th>
<th>DOCUMENT NUMBER and TITLE</th>
<th>ACTION TAKEN</th>
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</thead>
<tbody>
<tr>
<td>13-OCT-2020</td>
<td>C-0506-14-60856 Blood Product Fact Sheet: Antithrombin III</td>
<td>Approved at: Transfusion Safety Committee</td>
</tr>
</tbody>
</table>

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