References

1. [Reference 1]
2. [Reference 2]
3. [Reference 3]

[Additional references...]

[Further references...]

AsahiKASEI

MMUSORB™

TR-350(L)

Immunoadsorption Column

Treatment for Immune neurological diseases

[Diagram and text related to the treatment for immune neurological diseases]
Selective immunoadsorption for neurological diseases with easy to handle single use column

Indication

Neurological diseases
(e.g., Myasthenia gravis (MG), Guillain-Barré syndrome (GBS), Chronic inflammatory demyelinating polyneuropathy (CIDP), Multiple sclerosis (MS))

Features of IMMUSORBA TR-350(L)

- Therapeutic plasmapheresis by removing pathogenic substances (anti-acetylcholine receptor antibodies and immune complexes) from patient’s plasma by selective adsorption.
- No need for the replacement of plasma, minimizing the risk of infection with hepatitis, AIDS, etc.
- Applicable to patients with protein allergy.

IMMUSORBA TR-350 selectively adsorbed anti-ACHR antibodies (in vivo)

Plasma samples were collected at the inlet and outlet of the column when 1L plasma was treated.

Removal rate of plasma components from patient (in vivo)

Blood samples for removal rate were collected before and after treatment. Treated plasma volume 2L.
Shibuya et al, Current Practice to Therapeutic Plasmapheresis 1164-172, 1995

Clinical Course

Efficacy of immunoadsorption for patient with Myasthenia gravis (MG)

Muscles of limbs and trunk
- Oropharyngeal muscles

p < 0.01 v day 0

Mean values of myasthenia gravis score and titer of ACHR antibodies in the 11 improved patients after immunoadsorption therapy. Sequential immunoadsorption treatments induced a significant fall of the myasthenia gravis score and a decrease in the titer of ACHR antibodies. The myasthenia gravis score remained low even on day 42 despite the rise in ACHR antibody titers.
Shibuya et al J Neurol Neurosurg Psychiatry 51, 574-81, 1994

Circuit Diagram

Immunoadsorption Column

<table>
<thead>
<tr>
<th>Adsorbent</th>
<th>Material</th>
<th>Trypophan immobilized polyvinyl alcohol gel</th>
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<tr>
<td>Volume</td>
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<td>350mL</td>
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<td>Material</td>
<td>Poloxamine</td>
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<td>Weight</td>
<td>650g</td>
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<tr>
<td>Sterilization</td>
<td>High pressure steam</td>
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Filter

<table>
<thead>
<tr>
<th>Container</th>
<th>Material</th>
<th>Polyethylene (coated with ethylene-vinyl alcohol copolymer)</th>
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</thead>
<tbody>
<tr>
<td>Area</td>
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Microparticle Filter

<table>
<thead>
<tr>
<th>Container</th>
<th>Material</th>
<th>Pol (vinyl chloride)</th>
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</thead>
<tbody>
<tr>
<td>Sterilization</td>
<td>Ethylene oxide</td>
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</tbody>
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Caution

For patients undergoing treatment with angiotensin-converting enzyme (ACE) inhibitor, there is a possibility that treatment with the IMMUSORBA TR-350 will lead to a drop in blood pressure. Simultaneous treatment with ACE inhibitor and the IMMUSORBA TR-350 must be avoided.

The IMMUSORBA TR-350 is intended for the treatment of plasma. Never run whole blood through the IMMUSORBA TR-350. Thrombocytes cannot pass through the IMMUSORBA TR-350 and may cause blockage. Do not use the IMMUSORBA TR-350 with plasma containing a large amount of thrombocytes.
Selective immunoadsorption for neurological diseases with easy to handle single use column

Indication

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**Clinical Course**

- Efficacy of immunoadsorption for patient with Myasthenia gravis (MG)

![Graph showing immunoadsorption for MG patient](image)

Mean values of myasthenia gravis score and titer of ACHR antibodies in the 11 improved patients after immunoadsorption therapy. Consecutive immunoadsorption treatments induced a significant fall of the myasthenia gravis score and a decrease in the titer of ACHR antibodies. The myasthenia gravis score remained low even on day 42 despite the rise in ACHR antibody titer.

Shibuya et al. J Neurol Neurosurg Psychiatry 57:794–81, 1994

**Circuit Diagram**

**Specifications**

**Immunoadsorption Column**

<table>
<thead>
<tr>
<th>Material</th>
<th>Trypsin immobilized polyvinylalcohol gel</th>
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<tbody>
<tr>
<td>Volume</td>
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<tr>
<td>Weight</td>
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<td>Sterilization</td>
<td>High pressure steam</td>
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**Microparticle Filter**

<table>
<thead>
<tr>
<th>Material</th>
<th>Polyethylene (coated with ethylenesvinylactone copolymer)</th>
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<tbody>
<tr>
<td>Container</td>
<td>Poly (vinyl chloride)</td>
</tr>
<tr>
<td>Sterilization</td>
<td>Ethylene oxide</td>
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