1. Description

Components 33 mg GadoSpin™ P, MRI agent (polymeric Gd-chelate) or 5 × 33 mg GadoSpin™ P, MRI agent (polymeric Gd-chelate).

Capacity 5 × 100 μL injections after reconstitution or 25 × 100 μL injections after reconstitution.

Product format GadoSpin P is supplied as a lyophilized preparation. Reconstitution provides a 25 mM gadolinium isotonic solution.

Appearance White lyophilizate. Reconstituted: Clear, colorless liquid.

Storage Store protected from light at 2–8 °C. Do not freeze. The expiration date is indicated on the vial label.

For laboratory and animal research use only. Warning: Not for human or animal therapeutic or diagnostic use. Make sure to comply with all laws and regulations governing research on animals.

1.1 Background information

GadoSpin P is a polymeric gadolinium-based imaging agent of high molecular weight specifically formulated for pre-clinical magnetic resonance imaging (MRI).

It is an imaging agent of high relaxivity increasing the signal intensity in T₁-weighted MRI due to a shortening of the spin-lattice relaxation time (T₁).

Upon intravenous injection, GadoSpin P remains within the vascular system. Significant extravasation can be observed in fenestrated blood vessels of inflamed tissue or tumors.

GadoSpin P is mainly excreted via glomerular filtration (kidneys).

1.2 Applications

GadoSpin P is indicated for use in MRI of small animals, for example mice, to facilitate the visualization of the vasculature. Examples include contrast-enhanced magnetic resonance angiography (MRA), tumor characterization and therapy monitoring.

1.3 Physico-chemical properties

<table>
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<tr>
<th>Molecular weight</th>
<th>Relaxivity (37 °C, 1.41 T, in water)</th>
</tr>
</thead>
<tbody>
<tr>
<td>~200,000 g mol⁻¹</td>
<td>r₁ = 10 L mmol⁻¹ s⁻¹</td>
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<tr>
<td></td>
<td>r₂ = 12 L mmol⁻¹ s⁻¹</td>
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</tbody>
</table>

Figure 1: Schematic diagram of GadoSpin P.

1.4 Requirements

- Sterile syringes and needles (27–30 G)

  Note: To allow sufficient volume for 5 × 100 μL injections per vial, the syringe/needle dead volume should be kept below 70 μL.

  Tip: Use insulin or tuberculin syringes.

- 70 % ethanol

- Physiological saline (0.9 % NaCl) solution

2. Protocol

2.1 Preparation

- Read the entire protocol before starting.

  Tip: For optimum device settings perform initial studies in a suitable imaging phantom.

- To reconstitute the lyophilizate, inject 850 μL physiological saline (0.9 % NaCl) solution into the vial. Vortex until a clear solution is obtained.
For a mouse weighing 20–30 g the typical injection volume is 100 μL corresponding to a dose of 100 µmol Gd/kg body weight (for a 25 g mouse).

Note: Standard animal-handling procedures and local regulations must be followed.

2.2 Injection

Reconstitute the GadoSpin P lyophilizate prior to injection as described in section 2.1.

Disinfect the septum with 70% ethanol. Let septum dry.

Warm the mouse tail to dilate the veins and enhance their visibility.

Inject GadoSpin P (typically 100 μL) via the lateral tail vein of the mouse.

Note: GadoSpin P contains no preservatives. Avoid microbial contamination and discard any unused material after 24 hours.

2.3 Imaging

Imaging can be performed on a multitude of devices at all commonly used field strengths including high-field MRI.

GadoSpin P is particularly suited for T1-weighted MRI but can also be detected by T2- and T2*-weighted sequences.

Taking a pre-contrast image is recommended.

Imaging can be performed immediately and over an extended time period after injection.

Find examples of GadoSpin P-enhanced MR images at www.viscover.berlin.

3. References


4. Related products

<table>
<thead>
<tr>
<th>Product</th>
<th>Order no.</th>
</tr>
</thead>
<tbody>
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<td>GadoSpin™ M</td>
<td># 130-095-134, # 130-095-135</td>
</tr>
<tr>
<td>GadoSpin™ F</td>
<td># 130-095-162, # 130-095-163</td>
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<tr>
<td>GadoSpin™ D</td>
<td># 130-095-164, # 130-095-165</td>
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<td>FeraSpin™ R</td>
<td># 130-095-138, # 130-095-139</td>
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<td>FeraSpin™ XL</td>
<td># 130-095-172, # 130-095-173</td>
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<tr>
<td>FeraSpin™ XXL</td>
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</table>

A comprehensive product portfolio for the imaging modalities MRI, CT, US, OI, SPECT, and PET is available at www.viscover.berlin.

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