**DESCRIPTION:** OsteoSense® 800 is a fluorescent in vivo diphosphonate imaging agent. OsteoSense 800 images areas of microcalcification and bone remodeling and enables imaging of bone growth and resorption.

**MATERIAL** *(Needs to be reconstituted)*

**CONTENTS:** Each vial contains 24 nmol of OsteoSense 800 in dried solid form. OsteoSense 800 solution has been filtered through a 0.2 µm filter. Reconstitute OsteoSense 800 with 1.2 mls of 1x PBS before injecting into animals. The packaged material provides sufficient reagent for imaging approximately 10 mice (weighing ~25 grams each) when using the recommended dose of 2 nmols (100 µL injection volume) of OsteoSense 800 per mouse.

**PROPERTIES:** The physical properties of OsteoSense 800 can be found in Table 1 and Figure 1.

**STORAGE & HANDLING:**
- Upon receipt, OsteoSense 800 should be STORED AT 2-8 °C AND PROTECTED FROM LIGHT.
- When stored and handled properly, OsteoSense 800 is stable for up to 12 months in dry solid form.
- Before opening the vial check to ensure that all of the solid material is at the bottom of the vial.
- After reconstituting with PBS, gently swirl the solution to ensure that the solid is fully in solution.
- Once reconstituted with 1 x PBS, the solution is stable up to 10 days when stored at 2-8 °C and protected from light.

**IN VIVO IMAGING AND APPLICATIONS:**
- The recommended procedure for in vivo imaging with OsteoSense 800 is administration via intravenous injection and imaging 24 hours post injection.
- OsteoSense 800 signal half-life in bone is 7-12 days.

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### Table 1. OsteoSense 800 Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>MW</td>
<td>~1281 g mol⁻¹</td>
</tr>
<tr>
<td>Fluorescence¹</td>
<td></td>
</tr>
<tr>
<td>Excitation</td>
<td>780 nm</td>
</tr>
<tr>
<td>Emission</td>
<td>805 nm</td>
</tr>
<tr>
<td>Absorbance</td>
<td>790 nm</td>
</tr>
<tr>
<td>Purity²</td>
<td>&gt;95 %</td>
</tr>
<tr>
<td>Appearance</td>
<td>Dark blue-green Solid</td>
</tr>
</tbody>
</table>

1. Absorbance and fluorescence maxima of OsteoSense 800 in PBS.
2. As determined by SE-HPLC and measuring absorbance at 750 nm.

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Fig 1.

Absorbance and fluorescence emission spectra of OsteoSense 800 in 1x PBS.
• **Imaging Bone Growth**: *OsteoSense 800* can be used to measure the effects of therapeutic stimulation of bone growth.

• **Imaging Bone Remodeling**: *OsteoSense 800* can be used to characterize bone remodeling associated with animal models of arthritis.

**SELECTED REFERENCES:**

Zaheer, A., Lenkinski, R.E., Mahmood, A., Jones, A.G., Cantley, L.C., Frangioni, J.V.,


**NOTES:**

• *PerkinElmer’s OsteoSense 800* is intended for research purposes only and is not for human use. It must be used by or directly under the supervision of a technically qualified individual experienced in handling potentially hazardous materials. Please read the Material Safety Data Sheet (MSDS) provided for this product.

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