DESCRIPTION: OsteoSense® 680 EX is a fluorescent in vivo bisphosphonate imaging agent. OsteoSense 680 EX images areas of microcalcifications and bone remodeling and enables imaging of bone growth and resorption.

MATERIAL: *(Needs to be diluted)*

CONTENTS: Each vial contains 24 nmol of OsteoSense 680 EX as a lyophilized solid. The solution has been filtered (0.2µ) prior to lyophilization. Upon dilution with 1.2 mL of 1 x PBS, this material provides sufficient reagent for imaging approximately 10 mice (weighing ~25 grams each) when using the recommended dose of 2 nmol/100 µL 1xPBS of OsteoSense 680 EX per mouse.

PROPERTIES: The physical properties of OsteoSense 680 EX can be found in Table 1 and Figure 1.

STORAGE & HANDLING:
- Upon receipt, OsteoSense 680 EX should be IMMEDIATELY STORED AT 2-8 °C AND PROTECTED FROM LIGHT.
- When stored and handled properly, OsteoSense 680 EX is stable for six months from date of shipment.
- Once reconstituted, the PBS solution is stable up to 10 days when stored at 2-8°C and protected from light.

IN VIVO IMAGING & APPLICATIONS:
- The recommended procedure for in vivo imaging with OsteoSense 680 EX is administration via tail vein injection and imaging 24 hours post tail vein injection.
- **Imaging Bone Growth:** OsteoSense 680 EX can be used to measure the effects of therapeutic stimulation of bone growth.
- **Imaging Bone Remodeling:** OsteoSense 680 EX can be used to characterize bone remodeling associated with animal models of arthritis.

### Table 1. OsteoSense 680 EX Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Specification</th>
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<tbody>
<tr>
<td>MW (acid form)</td>
<td>1470.5 g mol⁻¹</td>
</tr>
<tr>
<td>Fluorescence ³</td>
<td>668 ±10 nm</td>
</tr>
<tr>
<td>• Excitation</td>
<td></td>
</tr>
<tr>
<td>• Emission max</td>
<td>687 ±10 nm</td>
</tr>
<tr>
<td>Purity⁴</td>
<td>&gt;95%</td>
</tr>
<tr>
<td>Appearance</td>
<td>Blue solid</td>
</tr>
</tbody>
</table>

1. Absorbance and fluorescence maxima of OsteoSense 680 EX in PBS.
2. Based on concentration resulting in absorbance of 0.3 to 0.5 AU.
3. As determined by RP-HPLC and measuring absorbance at 680 nm.

**Fig 1.** Absorbance and fluorescence emission spectra in 1x PBS.
SELECTED REFERENCES:


NOTES:

- *PerkinElmer’s OsteoSense 680 EX* 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.

- Several of *PerkinElmer’s* products and product applications are covered by U.S. and foreign patents and patents pending. Our products are not available for resale or other commercial uses without a specific agreement with *PerkinElmer*.