# High Calcium Indicators

## Product Information

<table>
<thead>
<tr>
<th>cat.number</th>
<th>MW (g·mol⁻¹)</th>
<th>λ&lt;sub&gt;exc&lt;/sub&gt;/λ&lt;sub&gt;em&lt;/sub&gt; max. Free (nm)</th>
<th>λ&lt;sub&gt;exc&lt;/sub&gt;/λ&lt;sub&gt;em&lt;/sub&gt; max. High Ca²⁺ (nm)</th>
<th>mol. abs. (M⁻¹ cm⁻¹)</th>
<th>Kd (µM)</th>
<th>Soluble in</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluo-8H, AM ester CP7531, 10x50µg</td>
<td>1100</td>
<td>409 / 514</td>
<td>0.232</td>
<td>DMSO</td>
<td></td>
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<tr>
<td>Fura-2FF, AM ester FP-AM629A</td>
<td>1025.84</td>
<td>360 / 505</td>
<td>33 000</td>
<td>DMSO</td>
<td></td>
<td></td>
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<tr>
<td>Fura-2FF, K salt FP-AM627A</td>
<td>853.97</td>
<td>360 / 505</td>
<td>35</td>
<td>Water &gt;pH6</td>
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<td></td>
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<tr>
<td>Fluo-5F, AM ester FP-M2040A</td>
<td>931.1</td>
<td>491 / 518</td>
<td>74 000</td>
<td>DMSO</td>
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<td></td>
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<tr>
<td>Fluo-5F, K salt FP-M2039A</td>
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<td>75 000</td>
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<td>Fluo-4FF, AM ester FP-F9928A</td>
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<td>75 000</td>
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<tr>
<td>Fluo-4FF, K salt FP-R1264A</td>
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<td>74 000</td>
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<td>Fluo-5N, AM ester FP-M2023A</td>
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<tr>
<td>Fluo-5N, K salt FP-M2022A</td>
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<td>Indo-1FF, AM ester FP-AM628A</td>
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<td>Indo-1FF, K salt FP-AM630A</td>
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<td>Rhod-2FF, AM ester FP-BB4130</td>
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<td>Rhod-2FF, K salt FP-BB4140</td>
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<td>FP-AM934A</td>
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<td>Bapta-FF, AM ester FP-AM932A</td>
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<td>5000</td>
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<td>Bapta-FF, free acid FP-AM932A</td>
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<td>0.635</td>
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<td>DF-Bapta, AM ester FP-46742A</td>
<td>664.8</td>
<td>156027-00-8</td>
<td>Water &gt;pH6</td>
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</tbody>
</table>

(a) after hydrolysis  
(b) λ<sub>exc</sub>/λ<sub>em</sub> (EtOH) = 290 nm / none  
(c) λ<sub>exc</sub>/λ<sub>em</sub> (pH7.2) = 289 nm / 263

**Storage:** Indicator salts can be stored desiccated and protected from light at room temperature, +4°C or −20°C > 1 year.  
AM esters can be stored desiccated and protected from light at −20°C > 6 months.

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**Introduction**

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Contact your local distributor
High Ca\(^{2+}\) indicator are available as Acetoxymethyl ester. They are membrane-permeant and thus can be loaded into cells by simple incubation of the cells or tissue preparation in a buffer containing the AM ester. Pluronic® F-127, a mild non-ionic detergent, can facilitate AM esters loading. The AM esters themselves do not bind to High Ca\(^{2+}\). However, once they have entered the cells, they are rapidly hydrolyzed by intracellular esterases into the parent Ca\(^{2+}\) indicators, thus becoming reactive to Ca\(^{2+}\).

High Ca\(^{2+}\) indicator are also available as salts and are membrane-impermeant, but can be loaded into cells via microinjection or scrape loading.

**Directions for use**

**Handling and Storage**

Stock solutions of the salts may be prepared in distilled water or aqueous buffers (pH>6) and stored frozen (-20°C) and protected from light; these solutions should be stable for at least six months.

AM esters should be reconstituted in anhydrous dimethylsulfoxide (DMSO) then used as soon as possible (-20°C) and protected from light; these solutions should be stable for at least six months.

AM esters should be frozen and dessicated and protect from light. (London 1996). Other benefits are:

- Reduced buffering of intracellular calcium
- Suitable for shorter lived transients (reduced perturbation)
- Higher K_d
- Absence of Mg-effects

References

**Fluo-3FF**

- David G., et al., « Stimulation-induced changes in [Ca\(^{2+}\)] in lizard motor nerve terminals », *J. Physiol.*, 504, 83 (1997) [Article](#)
- Han-Chen Ho, et al., « An Inositol 1,4,5-Triphosphate Receptor-Gated Intracellular Ca\(^{2+}\) Store Is Involved in Regulating Sperm Hyperactivated Motility », *Biology of Reproduction*, 65, 1606 (2001)

**Fura-2FF**

- Felix P., et al., « The timing of phasic transmitter release is Ca\(^{2+}\)-dependent and lacks a direct influence of presynaptic membrane potential », *PNAS.*, 100, 15200 (2003) [Article](#)
FluProbes®

FT-AM626A (+NT_AMesters)

Flu-5F

Flu-4FF

Flu-5N

Indo-1FF

Rhod-2FF

Ordering Information
Catalog size quantities and prices may be found at http://www.fluoprobes.com
Please inquire for higher quantities (availability, shipment conditions).

For any information, please ask : Fluoprobes / Interchim; Hotline : +33(0)4 70 03 73 06

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