

FT-CARUBN



INTERFINE CHEMICALS

ANALYTICAL SCIENCES

BIOCHROMATOGRAPHY

BIOSCIENCES

CaRuby-nano

Red Calcium indicator with a dissociation constant of 258 ± 8 nM

Product Information

| Product name cat.number | Structure | MW (g·mol ⁻¹) | $\lambda_{exc} \lambda_{em} \cdot \max$ (nm) | Soluble in |
|---|--|------------------------------|---|---------------------------------|
| CaRuby-nano FP-CARUBN, 1mg | C ₅₇ H ₆₈ N ₇ O ₁₂ | 1043.22 | 575/610 | DMSO, Methanol, Dichloromethane |
| CaRuby-nano AM FP-B41X00, 1mg | C ₆₅ H ₇₆ N ₇ O ₂₀ | 1275.36 | 575/610 | 20% Pluronic-127 in DMSO |

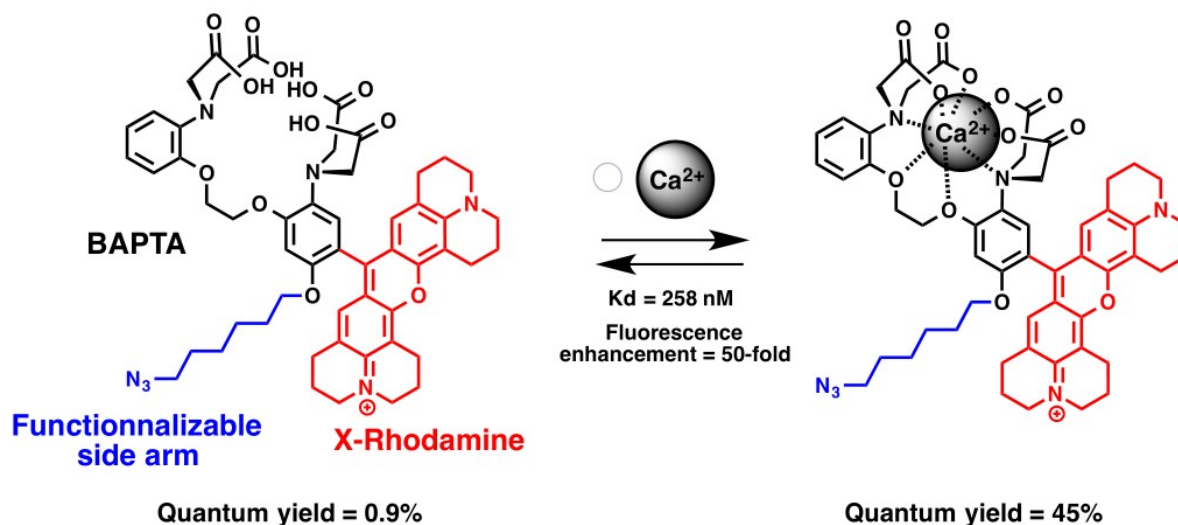
Storage: -20°C >1 year. (M)

Protect from light and moisture

Product Patent: Fluorescent red emitting functionalizable calcium indicators, 2014, WO2015078948A1 [Jean-Maurice Mallet](#), [Mayeul Collot](#)

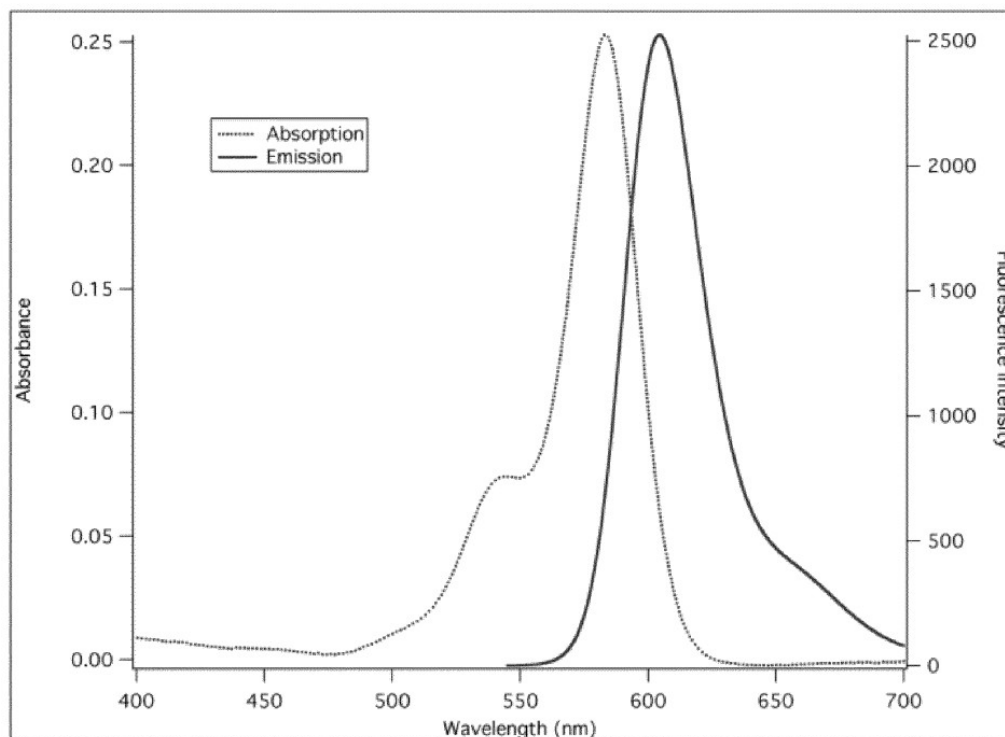
Features

- Fonctionnalisable Ca²⁺ probe (compatible with copper free **click chemistry**, e.g. DBCO)
- High affinity Ca²⁺ probe: **Kd= 258 nM**
- High dynamic range: Fluorescence enhancement of **50-fold** upon calcium binding
- **Bright** probe (Extinction coefficient 100,000 M⁻¹·cm⁻¹, Quantum yield = 45%)
- Compatible with **two photon excitation** (max at 900 nm)



Directions for use

Protocol may be found in the literature.



Normalized absorption and emission spectra of CaRuby-Nano
(5 mM in water, 30 mM MOPS, 100 mM KCl, pH 7.2)

References

- Collot, M. *et al.* CaRuby-Nano: A Novel High Affinity Calcium Probe for Dual Color Imaging. *eLife* 4, e05808 (2015) <https://doi.org/10.7554/eLife.05808>.
- Nielsen T. *et al.* Facile synthesis of beta-Cyclodextrin-dextran Polymers by ‘Click’ chemistry. *Biomacromolecules* 11:1710–1715 (2010)
- Otsu, Y. *et al.* Calcium Dynamics in Astrocyte Processes during Neurovascular Coupling. *Nat. Neurosci.* 18 (2), 210–218 (2015) <https://doi.org/10.1038/nn.3906>.

Related products

- Cal-520®-Dextran Conjugate, MW 10000, UVC900
- Cal-590™-Dextran Conjugate, MW 10000, 6I3990
- Dextran-DBCO 3000Da, AWJTOE
- Dextran-DBCO 10000Da, B362L0
- Pluronic F-127, 20% solution in DMSO, FP-69806A

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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