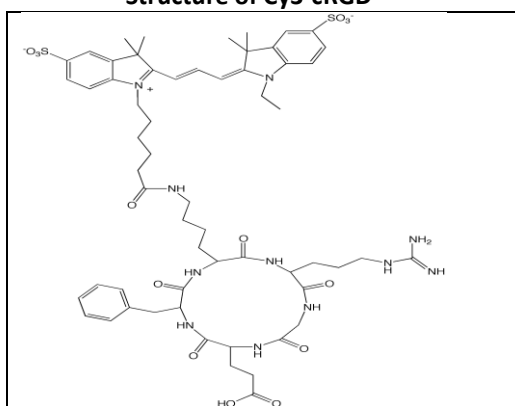


Cy3 cyclic RGD Optical Probe

For Detecting Tumor Angiogenesis, Growth and Treatment Efficacy

Product Description: Cy3 cRGD probe is a fluorescence imaging agent comprising a potent cyclic RGD peptide, c(RGDfk) designed to target integrins and a Cy3 dye with emission at 565 nm. This agent has been developed to target $\alpha_v\beta_3$ expression in the neovasculature as well as on tumor cells, to monitor angiogenesis and growth and treatment efficacy. The integrin family is comprised of 25 identified members, which are heterodimers of 19 α - and 8 β -subunits imbedded non-covalently into the cell membrane [1]. Generally, linear RGD peptides, such as GRGDS (Gly-Arg-Gly-Asp-Ser), often have low affinity ($IC_{50} > 100$ nM) and selectivity for $\alpha_v\beta_3$ and $\alpha_{IIb}\beta_3$ [2], and undergo rapid degradation in serum by a variety of proteases [3]. Cyclic RGD (cRGDfk) has shown elevated binding affinity and selectivity for $\alpha_v\beta_3$ over $\alpha_{IIb}\beta_3$ [2,4].

Structure of Cy3-cRGD



Spectral Properties in H₂O

Absorbance max	550nm
FL Em max	565nm
Extinction Coeff (ϵ)	98,240 M ⁻¹ cm ⁻¹

Catalog #	Product Name	Size
RG-1002	Cy3 cRGD	25 nmol

Product Formulation and Dose: Add 0.1 to water to vial and pipet up and down to ensure all pink material is removed from sides of vial and in solution. This will provide a 0.25mM stock solution.

Storage and Handling: Store at -20°C prior to reconstitution. Reconstituted material should be used within two weeks.

References:

- [1] Desgrosellier JS, Cheresh DA (2010). Integrins in cancer: biological implications and therapeutic opportunities. *Nat Rev Cancer*. **10**:9-22.
- [2] Pfaff M, Tangemann K, Müller Bet *al.* (1994). Selective recognition of cyclic RGD peptides of NMR defined conformation by $\alpha_{IIb}\beta_3$, $\alpha_v\beta_3$, and $\alpha_5\beta_1$ integrins. *J Biol Chem*. **269**:20233-8.
- [3] Gottschalk KE, Kessler H (2002). The structures of integrins and integrin-ligand complexes: Implications for drug design and signal transduction. *Angew Chem Int Ed Engl*. **41**:3767-74
- [4] Boturyn D, Dumy P (2001). A convenient access to $\alpha_v\beta_3/\alpha_v\beta_5$ integrin ligand conjugates: regioselective solid-phase functionalization of an RGD based peptide. *Tetrahedron Lett*. **42**:2787-90

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