

CyAL-5 cyclic RGD Optical Probe

For Imaging Tumor Angiogenesis, Growth and Treatment Efficacy

Product Description: CyAL-5 cRGD is a fluorescence imaging agent comprising a potent cyclic RGD peptide, c(RGDfk) designed to target integrins and a CyAL-5 dye with emission at 658 nm. This agent has been developed to target $\alpha_v\beta_3$ expression in the neovasculature as well as 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].

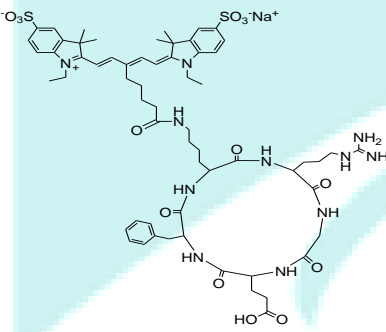
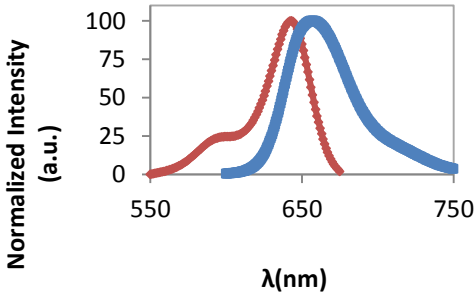
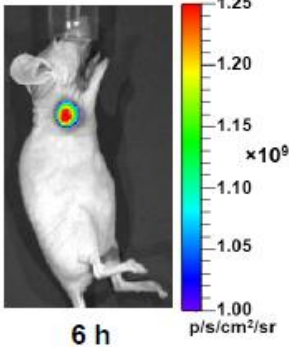
Structure of CyAL-5 cRGD (mw=1312)	Spectral Properties in PBS (abs max=643 nm; Em max=658 nm)	U87MG Tumor Xenograft on 20-25g mouse; 5 nmoles of CyAL-5 cRGD ; Imaging System: Xenogen IVIS 200; Filter: Cy5.5 (Ex. 640 nm; Em. 700 nm)
		

Image courtesy of Dr. Kai Chen of University of Southern California

Catalog #	Product Name	Size	Price (USD)
RG-1001	CyAL-5 cRGD	25 nmol	199.00

The recommended dose per mouse will range from 2-5 nmol, depending upon tumor type, size and location. Each tube contains 25 nmol of CyAL-5 cRGD optical probe. Add 500 μ L of PBS containing 1% DMSO to provide solution for injection.

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 B *et 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

For further information or to place an order please contact Dr. Brian Gray by email: briangray@mtarget.com or phone: 610-738-7938

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



MOLECULAR TARGETING TECHNOLOGIES, INC.

833 Lincoln Ave., Unit 9
 West Chester, PA 19380
 P: 610.738.7938 F: 610.738.7928
 Contact us: info@mtarget.com; web address: www.mtarget.com