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# Fluorescent cRGDY PEG-Cy5.5 C Dots

National Cancer Institute

## Source

National Cancer Institute. *Fluorescent cRGDY PEG-Cy5.5 C Dots*. NCI Thesaurus. Code C115104.

An imaging agent composed of silica-based nanoparticles labeled with a near-infrared (NIR) fluorophore, Cyanine 5.5 (Cy5.5) and surrounded by polyethylene glycol (PEG) chains attached to cyclo-[Arg-Gly-Asp-Tyr] (cRGDY) peptides, with potential use as a tumor-selective fluorescent imaging agent. Upon intradermal administration of the fluorescent cRGDY PEG-Cy5.5 C dots, the cRGD moiety selectively binds to alphaVbeta3 integrin expressed on tumor cells. Upon intraoperative fluorescence imaging, alphaVbeta3-expressing tumor cells can be visualized and the degree of both tumor metastasis and sentinel lymph node (SLN) trafficking can be assessed. Integrins are transmembrane glycoproteins upregulated on proliferating tumor vessel endothelial cells and various cancer cells; their overexpression has been associated with neovascularization, differentiation, proliferation of tumor cells, metastasis and an overall poor prognosis.