

Product Number
926-09889

Storage: -20°C
prior to reconstitution;
4°C after reconstitution

Revised: May 2011

Updates available at:
<http://biosupport.licor.com>

Limitation of Liability and Limited Use Label License

LI-COR IRDye optical probes are offered for research purposes only and are not intended for human therapeutic or diagnostic use. The purchase of this product conveys to the buyer the non-transferable right to use the amount of product purchased and the components of the product in research conducted by the buyer (whether the buyer is a not-for-profit, academic or for-profit entity). The buyer shall not sell or otherwise transfer this product, its components, or materials made there from to any third party. Buyer shall not use this product or its components for commercial purposes. The term "commercial purposes" shall mean any activity by a party for consideration and may include, but is not limited to, use of the product or its components (i) in manufacturing, (ii) to provide a service, information or data, (iii) for therapeutic, diagnostic or prophylactic purposes, or (iv) for resale, whether or not such product or its components are resold for use in research. The use of this product by the buyer constitutes agreement with the terms of this limited use label license for LI-COR IRDye infrared dyes. Inquiries regarding the licensing of one or more IRDye reagents should be submitted by e-mail to busdev@licor.com.

LI-COR DOES NOT PROVIDE RESEARCH ADVICE OR DETERMINE OR RECOMMEND ANY POTENTIAL USES FOR IRDYE INFRARED DYES AND REAGENTS. LI-COR MAKES NO WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, AS TO ANY MATTER INCLUDING, BUT NOT LIMITED TO, WARRANTY OF FITNESS FOR PURPOSE, OR MERCHANTABILITY OR RESULTS OBTAINED FROM USE OF IRDYE INFRARED DYES AND REAGENTS. IN NO EVENT SHALL LI-COR BE LIABLE FOR LOST PROFITS, CONSEQUENTIAL, EXEMPLARY, SPECIAL, DIRECT, INCIDENTAL, OR PUNITIVE DAMAGES, OR ATTORNEY FEES, EVEN IF LI-COR HAD BEEN ADVISED OF, KNEW OR SHOULD HAVE KNOWN, OF THE POSSIBILITIES THEREOF. NO EMPLOYEE, AGENT OR REPRESENTATIVE OF LI-COR HAS THE AUTHORITY TO BIND LI-COR TO ANY ORAL REPRESENTATION OR WARRANTY EXCEPT AS SPECIFICALLY SET FORTH HEREIN.

© 2011 LI-COR, Inc. LI-COR is an ISO 9001 registered company. LI-COR, Odyssey, Pearl, BrightSite, MousePOD, IRDye, and BoneTag are trademarks and registered trademarks of LI-COR, Inc., in the United States and other countries. The Odyssey Infrared Imager, Pearl Imager, IRDye 800CW and IRDye reagents are covered by U.S. and foreign patents and patents pending.

Doc #988-12109

LI-COR®

Biosciences

4647 Superior Street • P.O. Box 4000
Lincoln, Nebraska 68504 USA
Technical Support: 800-645-4260
North America: 800-645-4267
International: 402-467-0700
FAX: 402-467-0819

LI-COR GmbH Germany, Serving Europe,
Middle East and Africa: +49 (0) 6172 17 17 771
LI-COR UK Ltd. UK, Serving UK, Ireland, and
Scandinavia: +44 (0) 1223 422104
All other countries, contact LI-COR Biosciences
or a local LI-COR distributor:
[Http://www.licor.com/distributors](http://www.licor.com/distributors)

www.licor.com

BrightSite™
Small Animal Imaging Agents

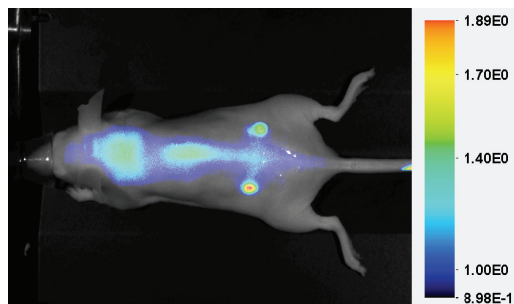
IRDye® 800CW RGD Optical Probe

Description

IRDye 800CW RGD Optical Probe from LI-COR® Biosciences is a near-infrared labeled imaging agent specifically designed to target integrins. Integrins are cell surface heterodimeric glycoproteins important in cell adhesion and signal transduction. This receptor class is involved in tumor growth, tumor invasiveness, metastasis, tumor-induced angiogenesis, inflammation, osteoporosis, and rheumatoid arthritis¹⁻⁶.

The recognition motif, RGD (Arg-Gly-Asp), is a tripeptide sequence that binds integrin receptors including $\alpha_v\beta_3$. Interest in using a labeled RGD peptide ligand for studying and/or monitoring diseases related to $\alpha_v\beta_3$ receptor over-expression is increasing. Several groups have fluorescently labeled RGD and successfully used it for *in vitro* and *in vivo* imaging^{7,8}. *Cyclo*-(Arg-Gly-Asp-D-Phe-Lys) was conjugated to IRDye 800CW for use as a tumor imaging agent in mice.

IRDye 800CW RGD has been characterized for *in vitro* and *in vivo* use with a number of tumor cell lines which include U87 (glioblastoma), A431 (epidermoid carcinoma), and PC3M-LN4 and 22Rv1 (prostate carcinomas).



A nude mouse bearing two tumors in the hip region (U87 and A431) was imaged with the Pearl® Imager 24 hours after receiving 1 nmole IRDye 800CW RGD intravenously. The 800 nm signal is presented in pseudo color and overlaid on a white-light image of the mouse.

Material

The IRDye 800CW RGD Optical Probe solution was passed through a 0.2 μ m nylon membrane into a sterile polypropylene tube and lyophilized. The reagent is supplied as a lyophilized powder. The recommended individual dose per mouse (~25 grams body weight) is 1 nmole. For best results, determine the optimal dose for each tumor model. Each tube contains 15 nmole of IRDye 800CW RGD Optical Probe.

IRDye 800CW Properties (In 1X PBS)

- Absorption maximum: 776 nm
- Emission maximum: 792 nm

Storage and Handling

Upon receipt, immediately store at -20°C prior to reconstitution. When stored properly, this product is stable in the lyophilized state for up to 3 months. After reconstitution, store at 4°C for a maximum of 1 month. **Protect from light.**

Continued

Directions For Use

- Resuspend IRDye[®] 800CW RGD in 0.5 mL sterile 1X PBS.
- Transfer to a sterile 2.0 mL tube and add an additional 1 mL 1X PBS.
Final concentration = 0.01 nmole per μ L.
- To ensure sterility, filter through a 0.2 μ m nylon membrane.
- Recommended administration: Inject 1 nmole (100 μ L) intravenously via the tail vein.
- *In vivo* Imaging: Optimal signal-to-noise ratios occur 24-48 hours post injection. For best results, determine the optimal imaging time point for each tumor model.

Precautions

The probe is processed through the liver and kidneys, with excretion via the bladder, which may increase background when imaging in the abdominal region.

References

1. Cox D, Aoki T, Seki J, Motoyama Y, Yoshida K. The pharmacology of integrins. *Med Res Rev.* 1994;14:192-228.
2. Hynes RO, Lively JC, McCarty JH, Taverna D, Francis SE, Hodivala-Kilke K, Xiao Q. 2002. The diverse roles of integrins and their ligands in angiogenesis. *Cold Spring Harb Symp Quant Biol* 67:143-153.
3. Jin H, Varner J. 2004. Integrins: roles in cancer development and as treatment targets. *Br J Cancer* 90:561-565.
4. Kumar CC. 2003. Integrin $\alpha_v\beta_3$ as a therapeutic target for blocking tumor-induced angiogenesis. *Curr Drug Targets* 4:123-131.
5. Ruegg C, Dormond O, Foletti A. 2002. Suppression of tumor angiogenesis through the inhibition of integrin function and signaling in endothelial cells: which side to target? *Endothelium* 9:151-160.
6. Varner JA, Cheresch DA. 1996. Tumor angiogenesis and the role of vascular cell integrin $\alpha_v\beta_3$. *Important Adv Oncol* 69-87
7. Achilefu S. 2004. Lighting up tumors with receptor-specific optical molecular probes. *Technol Cancer Res Treat* 3:393-409.
8. Chen X, Conti PS, Moats RA. 2004. In vivo near-infrared fluorescence imaging in integrin $\alpha_v\beta_3$ in brain tumor xenografts. *Cancer Res* 64:8009-8014.