

Product Number
926-08445

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

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LI-COR

Biosciences

4647 Superior Street • P.O. Box 4000
Lincoln, Nebraska 68504 USA
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
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BrightSite[™]
Small Animal Imaging Agents

IRDye[®] 680RD EGF Optical Probe

IRDye 680RD EGF Optical Probe from LI-COR[®] Biosciences can be used as an optical tracking agent for *in vitro*, *in vivo*, whole organ, and tissue section analysis, allowing the same probe to be used in all steps of the discovery process.

Description

Epidermal growth factor (EGF) is a polypeptide containing 54 amino acid residues (molecular weight = 6.2 kDa). EGF stimulates differentiation and proliferation of epithelial cells. Binding of EGF to the EGF receptor (EGFR) stimulates mitogenic activity and has proven effective in both *in vitro* and *in vivo* assays for monitoring specific solid tumor models that exhibit over-expression of EGFR¹⁻⁵.

Material

The product is supplied as a lyophilized powder from phosphate-buffered saline (PBS), pH 7.2. The recommended individual dose per mouse (~25 grams) is 2 nmole. Each tube contains 25 nmole of IRDye 680RD EGF Optical Probe.

Properties (in 1X PBS)

- Absorption maximum: 674 nm
- Emission maximum: 698 nm
- Appearance: Lyophilized solid

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 3 months. After reconstitution, store at 4°C.

Reconstituted material should be used within 2 weeks. **Protect from light.**

Directions for Use

Reconstitute material in 1.25 ml of sterile 1X PBS for a final concentration of 2.0 nmole/100 µl. To ensure sterility, filter through a 0.2 µm nylon membrane.

Recommended administration: Inject 2 nmole (100µL) intravenously via tail vein.

- *In vivo* Imaging: Optimal signal-to-noise ratios occur ~1 day post injection; however, this may vary for each tumor model system used.
- *In vitro* cell-based assays: Recommend use of a microtiter plate that is low in fluorescence at 680 nm, such as Corning[®] Incorporated, part number 3603 (96-well assay plate, black plate, clear bottom with lid).

Precautions

The probe is processed through the liver, intestines, and kidneys.

References

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3. Konstantin Sokolov, Michele Follen, Jesse Aaron, Ina Pavlova, Anais Malpica, Reuben Lotan, and Rebecca Richards-Kortum. Real-time vital optical imaging of precancer using anti-epidermal growth factor receptor antibodies conjugated to gold nanoparticles. *Cancer Research*, 63: 1999-2004, 2003.
4. Shi Ke, Xiaoxia Wen, Michael Gurfinkel, Chusilp Charnsangavej, Sidney Wallace, Eva M. Sevick-Muraca, and Chun Li. Near-infrared optical imaging of epidermal growth factor receptor in breast cancer xenografts. *Cancer Research*, 63: 7870-7875, 2003.
5. Arnab Chakravarti, Meaghan A. Delaney, Elizabeth Noll, Peter McL. Black, Jay S. Loeffler, Alona Muzikansky, and Nicholas J. Dyson. Prognostic and pathologic significance of quantitative protein expression profiling in human gliomas. *Clinical Cancer Research*, 7:2387-2395, 2001.6.

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