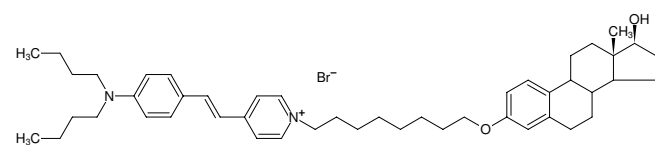




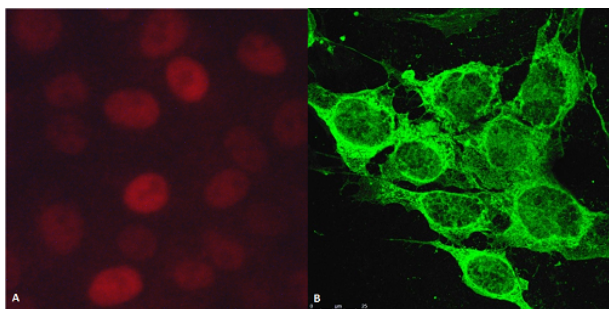
Estradiol Glow

Fluorescently labeled Estradiol

Cat. No.	Amount
PR-958S	100 µg
PR-958L	5x 100 µg



Structural formula of Estradiol Glow



A: Nucl. accumul. of Estradiol glow in rat paraventricular hypothalamic neurons after *in vivo* i.p. injection. 100 µm vibratome, section of the perfusion fixed brain. B: Cytopl. and nucl. uptake of estradiol glow in MCF7 breast cancer cell culture

For general laboratory use.

Shipping: shipped at 4 °C

Storage Conditions: store at 4 °C

Additional Storage Conditions: store dark

Shelf Life: 12 months

Molecular Formula: C₄₇H₆₇BrN₂O₂

Molecular Weight: 771.95 g/mol

Purity: > 97 % (DC, NMR)

Form: lyophilised, glassy to waxy appearance

Color: brownish-red

Solubility: High: MeOH, EtOH, PrOH, DMSO, DMF

Moderate: acetone, CH₂Cl₂, CH₃Cl, THF

Low: H₂O and aqueous buffer systems (after presolution in DMSO >1 µM)

Insoluble: Et₂O, hydrocarbons such as hexane, heptane, benzene

Spectroscopic Properties: λ_{exc} 467 nm, λ_{em} 618 nm,

ε 29.0 L mmol⁻¹ cm⁻¹ (PBS pH 7.4)

λ_{exc} 501 nm, λ_{em} 596 nm, ε 52.0 L mmol⁻¹ cm⁻¹ (ethanol)

Description:

Estradiol Glow is the ovarian steroid hormone 17-β-Estradiol labeled with a novel low molecular weight orange/red fluorophore thus retaining its chemical properties and its biological activity. This allows for a wide range of applications including

- analysis of *in vivo* and *in vitro* steroid uptake in real time
- monitoring of intracellular and subcellular steroid transport
- studies on steroid-binding proteins
- use as tracer for steroid immunoassays (to replace isotopes or enzymes)
- photodynamic elimination of estrogen sensitive tissues and cells in experimental settings with possible future clinical implications

Estradiol Glow can be histologically fixed using formaldehyde or glutaraldehyde without any significant loss of fluorescence intensity. Typical concentration range used for cell culture experiments: 10⁻⁵M - 10⁻⁷M (may vary depending on cell line and individual experimental set-up).

Background

Identification of steroid sensitive cells in target tissues has so far been attempted with either radio labelled hormones and autoradiography or with *in situ* hybridization and immuno-histochemistry for receptor proteins. Numerous studies have been performed with steroid hormones labelled with either enzymes, fluorophores or immunogenic markers, all resulting in loss of biological properties



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and hormonal function. Estradiol Glow is 17- β -estradiol, labelled in a novel way with a low molecular weight biocompatible fluorophor, thus retaining biological activity of the ovarian hormone. Systemic injections into experimental animals revealed accumulation of the fluorescent steroid in nuclei of known estrogen target tissues, including the brain.

Estradiol Glow allows new insights into cellular uptake, intracellular transport and subcellular binding. Mechanisms of rapid steroid actions become transparent on the single cell level.

Selected References:

Jirikowski *et al.* (2011) Uptake, intracellular transport and physiological effects of biologically active fluorescent steroids. Rapid Responses to Steroid Hormones. *7th International Meeting, 14-17 September 2011, Crete, Greece.*