EXOSOME RESEARCH

ExoGlow™-Vivo EV Labeling Kit (Near IR)

EV LABELING OPTIMIZED FOR *IN VIVO* APPLICATIONS

SYSTEMBIO.COM/EXOGLOW-VIVO

HIGHLIGHTS

- ***Optimized for EV imaging in animal models and tissues***
  - *High sensitivity—NIR spectrum enables deep tissue illumination and eliminates background from autofluorescence*
  - *High specificity—non-lipophilic dye overcomes background from non-specific labeling*
- ***Fast labeling protocol takes you from EV isolation to injection-ready labeled EVs in less than 1 hour***
- ***Ideal for in vivo EV tracking, biodistribution, and kinetic studies***
  - *Assess targeting specificity of engineered EVs*
  - *Follow EVs in organ homing studies*
  - *Compare how different EV isolation methods affect biodistribution and other in vivo parameters critical for evaluating EV performance*
  - *Perform ADME studies of EVs as delivery vehicles*

Powerful *in vivo* EV tracking enables therapeutic development and more

Visualizing extracellular vesicles (EVs) in cells and organisms has been technically difficult due to the high background from light scattering and autofluorescence in the UV and visible areas of the spectrum and a lack of specificity from typically lipophilic dyes. SBI's ExoGlow-Vivo EV Labeling Kit (Near IR) is the first reagent specifically designed to overcome these problems through the use of a proprietary, non-lipophilic dye that emits in the near infrared (NIR) range (excitation at 784 nm; emission at 806 nm). Delivering a level of specificity and sensitivity that takes the guesswork out of tracking EVs *in vivo*, ExoGlow-Vivo is ideal for EV biodistribution and kinetic studies needed to fully realize the value of EVs in basic research and translational applications.

Each kit includes lyophilized dye sufficient for labeling up to 12 samples*. We recommend solubilizing the lyophilized dye in 25µL of DMSO.

*One sample is defined as 2 µL of solubilized dye with 250 µg protein equivalents of EVs.

ExoGlow-Vivo-labeled EVs show robust signal *in vivo*

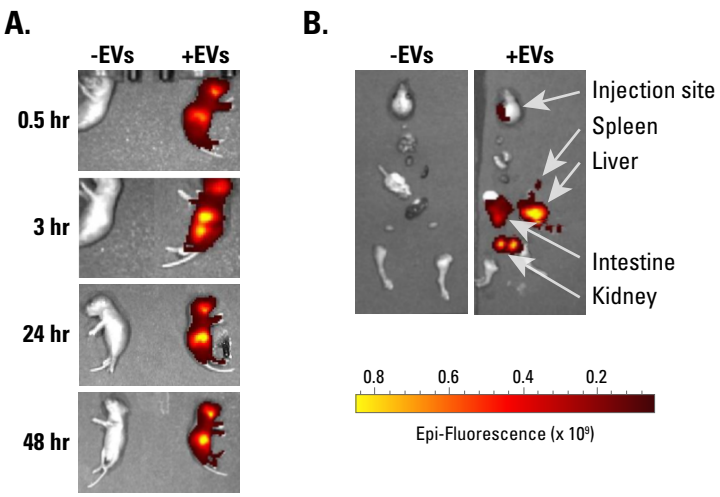

Figure 1. *(A) HEK293-derived EVs isolated using the ExoQuick-TC® Isolation Kit were labeled with the ExoGlow-Vivo dye and administered intravenously via the superficial temporal vein into post-natal day-4 C57BL6 mice. Animals were imaged at various time points using IVIS® In Vivo Imaging System (PerkinElmer). (B) Dissection after 24-hours shows the preferential accumulation of labeled EVs in the liver and kidneys. Data courtesy of Gareth Willis, PhD., Harvard Medical School and Boston Children's Hospital.*

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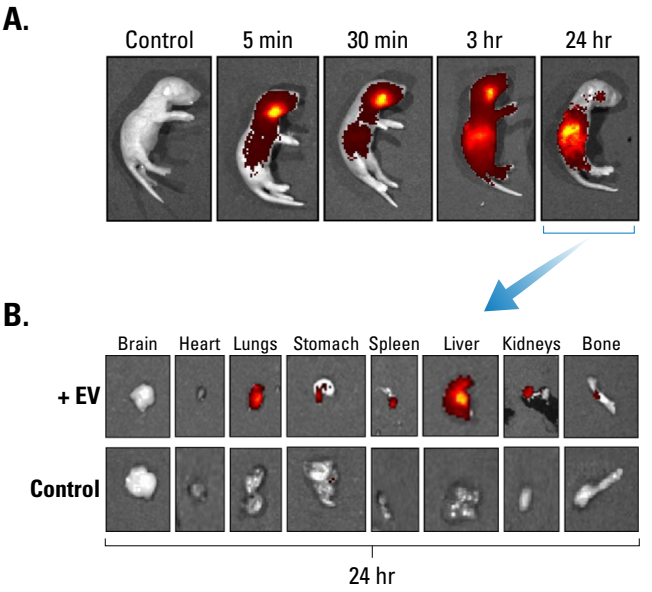

Figure 2. *(A) Human mesenchymal stem cell-derived EVs were labeled with ExoGlow-Vivo dye and unbound dye removed via ultracentrifugation and a wash. EVs were administered intravenously via the superficial temporal vein into post-natal day-4 FVB mice. Animals were imaged at various time points using an IVIS® In Vivo Imaging System (PerkinElmer). Control refers to supernatant from wash step (i.e. free dye). (B) Dissection after 24-hours shows the preferential accumulation of labeled EVs in specific organs and very low residual background signal from free dye. Data courtesy of Gareth Willis, PhD., Harvard Medical School and Boston Children's Hospital.*

ExoGlow-Vivo enables kinetic analysis of EV persistence in living mice

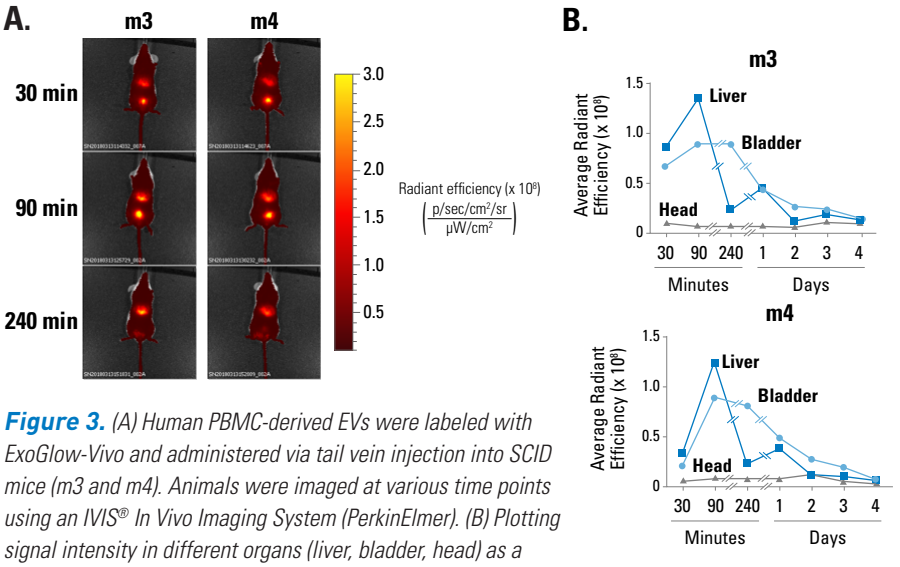

Figure 3. *(A) Human PBMC-derived EVs were labeled with ExoGlow-Vivo and administered via tail vein injection into SCID mice (m3 and m4). Animals were imaged at various time points using an IVIS® In Vivo Imaging System (PerkinElmer). (B) Plotting signal intensity in different organs (liver, bladder, head) as a function of time after injection shows that EVs are rapidly taken up by target organs within 90-minutes of injection and decline at different rates over time. Data courtesy of Sam Noppen, Rega Institute KU Leuven, Belgium.*

Building the tools that speed your research

With an eye on the latest advances, SBI finds promising technology and converts it into easy-to-use tools accessible to any researcher. Our growing exosome product portfolio is just one example. See what other ways SBI can drive your research forward—visit us at ***systembio.com****.*

Order the ExoGlow-Vivo EV Labeling Kit (Near IR) at ***systembio.com/exoglow-vivo***

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