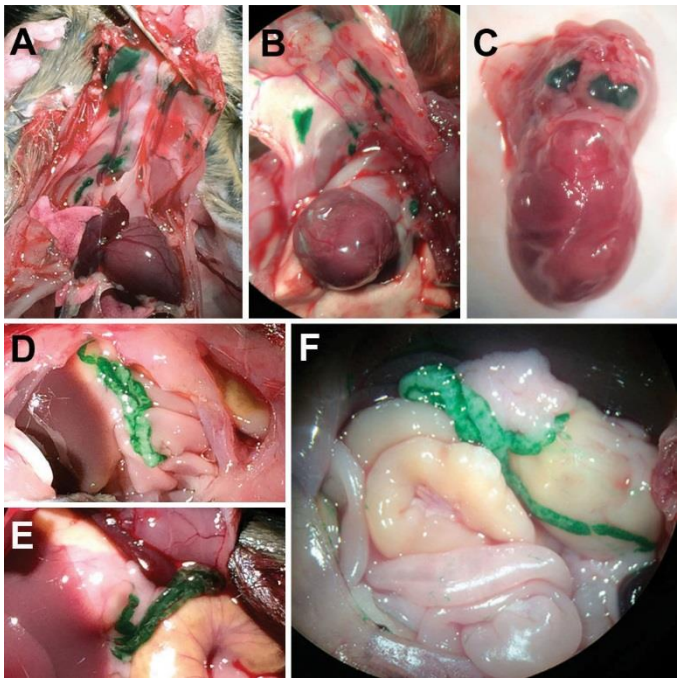

Fig. S1. Distribution of ICG within the abdominal and thoracic cavity after intraperitoneal administration. We performed dissection of mice 7 days after intraperitoneal administration of 1mg of indocyanine green (ICG). (**A, B**) In the thorasic cavity we observed green staining of lymphatic tissue along the thorasic wall and (**C**) mediastinal lymph nodes. (**D-F**) In the abdominal cavity, we observed a strong green stain of the greater omentum in all cases.

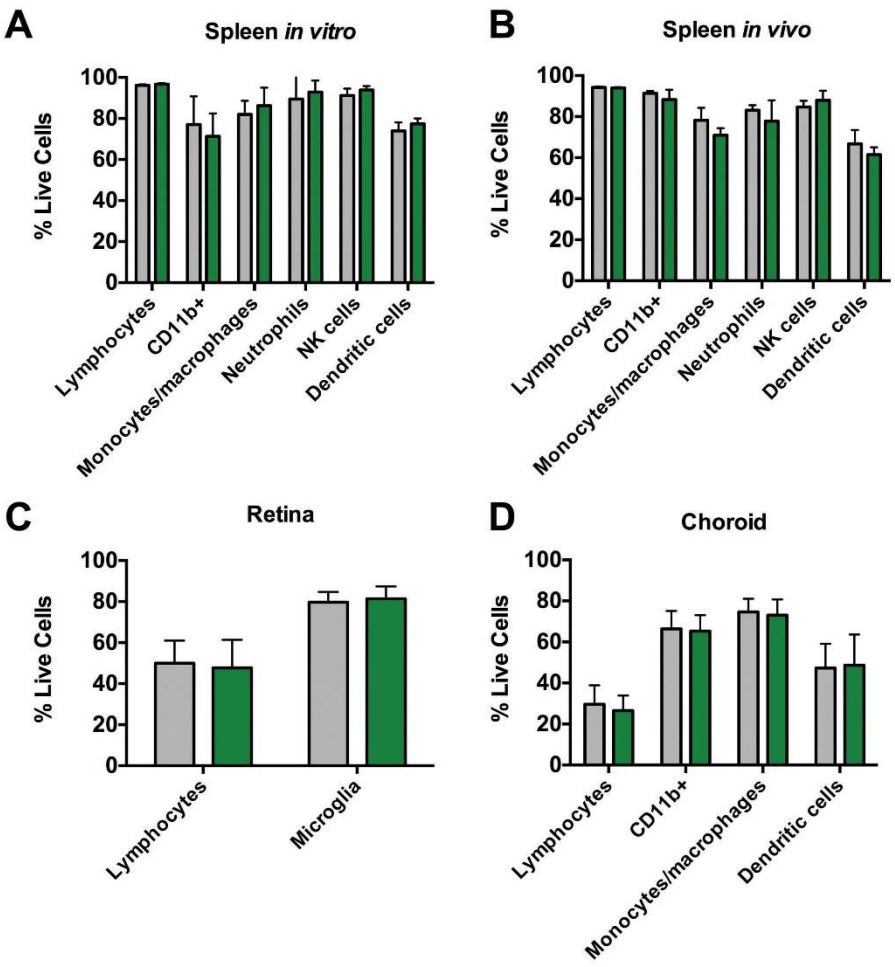

Fig. S2. Assessment of toxicity following exposure to ICG. No significant differences in cell death were noted in individual leukocyte populations exposed to ICG in both in vitro and in vivo settings, using flow cytometric analysis. (**A**) Murine splenocytes were either unlabelled (grey bars) or labelled with 1.25μg/mL ICG for 30 minutes (green bars) in an in vitro setting. (**B**) Splenocytes were analysed 10 days following an intraperitoneal injection of phosphate buffered saline (grey bars) or ICG (green bars). (**C, D**) Choroidal neovascularization was induced in control (grey bars) and ICG-labelled (green bars) 3 days following intraperitoneal administration. Cell death in individual leucocyte populations was determined 7 days following laser induction of choroidal neovascularization.

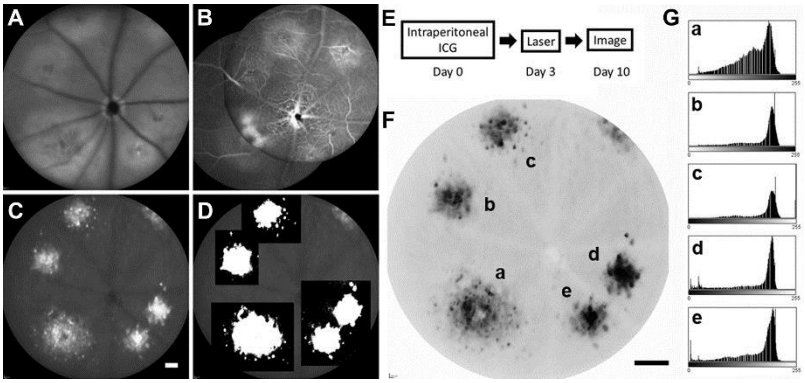

Fig. S3. Quantification of ICG-labelled cells. Methods for the quantification of indocyanine green (ICG)-labelled cells in the laser induced choroidal neovascularisation (CNV) murine model were assessed 10 days after ip injection of ICG.(**A**) Autofluorescence image acquired using blue-light filter (488 nm solid state excitation laser and 500 nm long-pass filter) showing laser-induced CNV lesions. (**B**) Fluorescein angiogram showing CNV formation and fluorescein leakage into surrounding tissues. (**C**) ICG-labelled cells in and around CNV lesions acquired with a near-infrared filter (790 nm diode excitation laser and 800 nm long-pass filter). (**D**) An example of thresholding individual CNV lesions from (C). Simple pixel counting for quantification of ICG-labelled cellular infiltration was not possible due to the narrow range of intensity values of cells overlying the CNV. (**E**) Protocol for intraperitoneal ICG injection, laser-induction of CNV, and imaging with the scanning laser ophthalmoscope. (**F**) An inverted image of (C) showing that individual cells (black) can be identified qualitatively overlying CNV lesions. (**G**) A method for quantifying ICG-labelled cellular infiltration over individual CNV lesions (**a-e**) by the use of histograms. We observed that this method could reproducibly quantify the mean intensity of each lesion for the purpose of tracking changes over time. Scale-bars = 1.5mm.

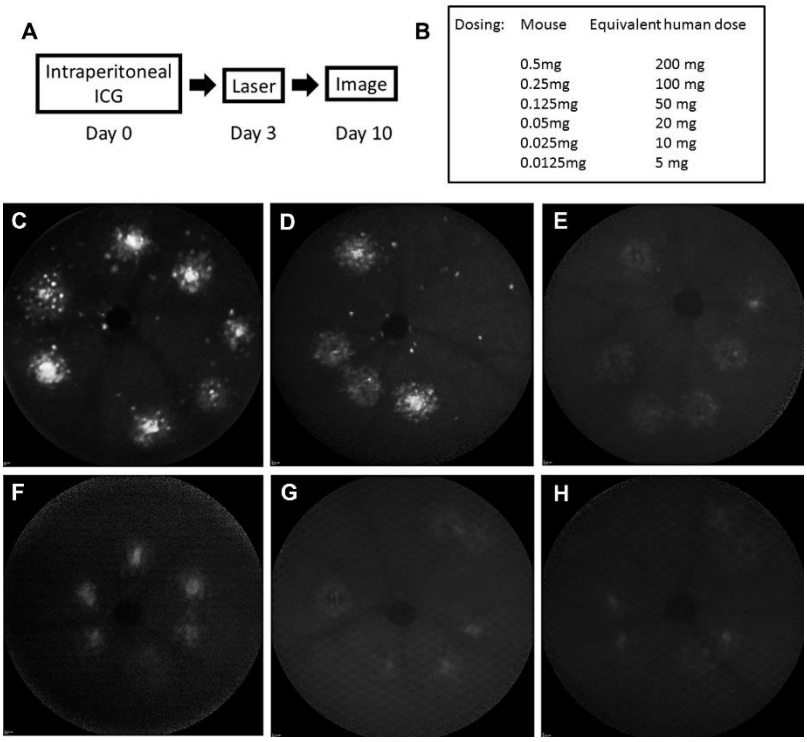

Fig. S4. ICG dosing for the purpose of cellular labelling. The doses required for cellular labelling were tested in the laser induced choroidal neovascularisation (CNV) murine model. (**A**) The experimental protocol is shown diagrammatically with intraperitoneal (ip) indocyanine green (ICG) administered at day 0, laser-CNV induction at day 3, and subsequent imaging at day 10. (**B**) Table showing ICG doses in a stepwise reduction in mice from 0.5mg to 0.0125mg in the left column, and the equivalent human dose in the right column. (**C, D**) A deep retinal/choroidal image of an animal that received 0.5mg and 0.25mg of ip ICG respectively. Although ICG-labelled cells can be detected, they were fainter compared to the higher dose of 1mg used in previous experiments (not shown). (**E-H**) A deep retinal/choroidal image of an animal that received 0.125mg, 0.05mg, 0.025mg, 0.0125mg of ip ICG respectively. In these further dose reductions, CNV lesions were faintly fluorescent but individual cells could no longer be detected.

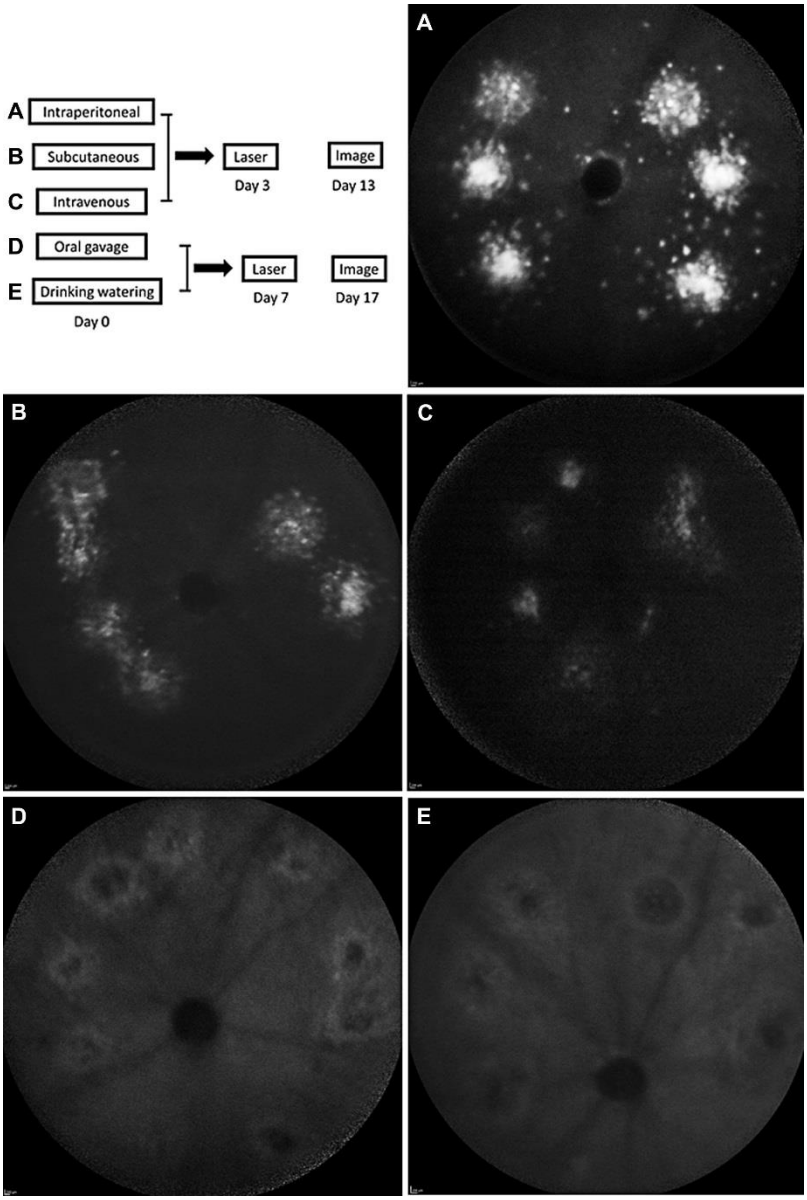

Fig. S5. Route of administration of ICG for the purpose of cellular labelling. Different delivery routes for ICG were tested in the laser induced choroidal neovascularisation (CNV) murine model. (**A-C**) 1mg of ICG was administered via the intraperitoneal, subcutaneous, and intravenous (tail vein) route at day 0 before laser-CNV induction at day 3 and imaging at day 13 respectively. (**D, E**) 1mg of ICG was given by daily oral gavage and the equivalent added to the drinking water for 7 days respectively, before laser-CNV induction, and subsequent imaging 10 days later. The intraperitoneal route of administration (**A**) was the most effective for cellular labelling. Faint labelling could be detected with the subcutaneous route (**B**) but not with the intravenous (**C**), or oral routes of administration (**D, E**).