Electronic Supplementary Material (ESI) for Chemical Society Reviews.

Electronic Supplementary Information

Smart fluorescent probes for imaging macrophage activity

A. Fernandez and M. Vendrell

Supplementary Movie Legends

Supplementary Movie S1. Time-lapse movie of the flank region of a 3 dpf Tg(cfms:mCherry) larva incubated with PhagoGreen. The movies show the active engulfing behaviour of macrophages. *Left panel*: yellow arrows point at macrophages (strong red fluorescence) containing mature phagosome (strong green fluorescence), and red arrows point at pigment cells (weak red fluorescent). *Right panel*: Green fluorescence channel to highlight the strong signal of PhagoGreen in macrophage phagosomes (yellow arrows). Scale bar: 20 μm. Reproduced with permission from the American Chemical Society.[1]

Supplementary Movie S2. Time-lapse movie of a single macrophage in the flank region of a 3 dpf Tg(cfms:mCherry) larva after incubation with PhagoGreen. The movie shows the strong green signal of PhagoGreen only in mature phagosomes (i.e. phagosomes upon acidification) compared to the non-stained newly formed phagosomes (yellow arrows). Scale bar: 20 μm. Reproduced with permission from American Chemical Society.[1]

Supplementary Movie S3. Unstimulated macrophages do not show pericellular MMP12 activity as measured with LaRee1. Reproduced with permission from Nature Publishing Group.[2]

Supplementary Movie S4. Real time imaging of MMP12 activity at the surface of LPS-stimulated macrophages measured with LaRee1. Reproduced with permission from Nature Publishing Group.[2]

Supplementary Movie S5. To monitor the activity of activated BV2 microglia on dying cells, U251 glioma cells were treated with 10 μM of camptothecin before labeling with CellTracker green (Life technologies). This was followed by the addition of BV2 microglia labeled with 500 nM of CDr10b. Cells were imaged at 20X magnification for 36 hours. Several compound labeled microglia (red) can be seen attacking neighboring cell tracker green labeled glioma cells. Reproduced from ref. 3 with permission from The Royal Society of Chemistry.

Supplementary References

[1] A. Vazquez-Romero, N. Kielland, M. J. Arevalo, S. Preciado, R. J. Mellanby, Y. Feng, R. Lavilla and M. Vendrell, *J. Am. Chem. Soc.,* 2013, **135**, 16018-16021.

[2] A. Cobos-Correa, J. B. Trojanek, S. Diemer, M. A. Mall and C. Schultz, *Nat. Chem. Biol.,* 2009, **5**, 628-630.

[3] C. Leong, S. C. Lee, J. Ock, X. Li, P. See, S. J. Park, F. Ginhoux, S. W. Yun and Y. T. Chang, *Chem. Commun.,* 2014, **50**, 1089-1091.