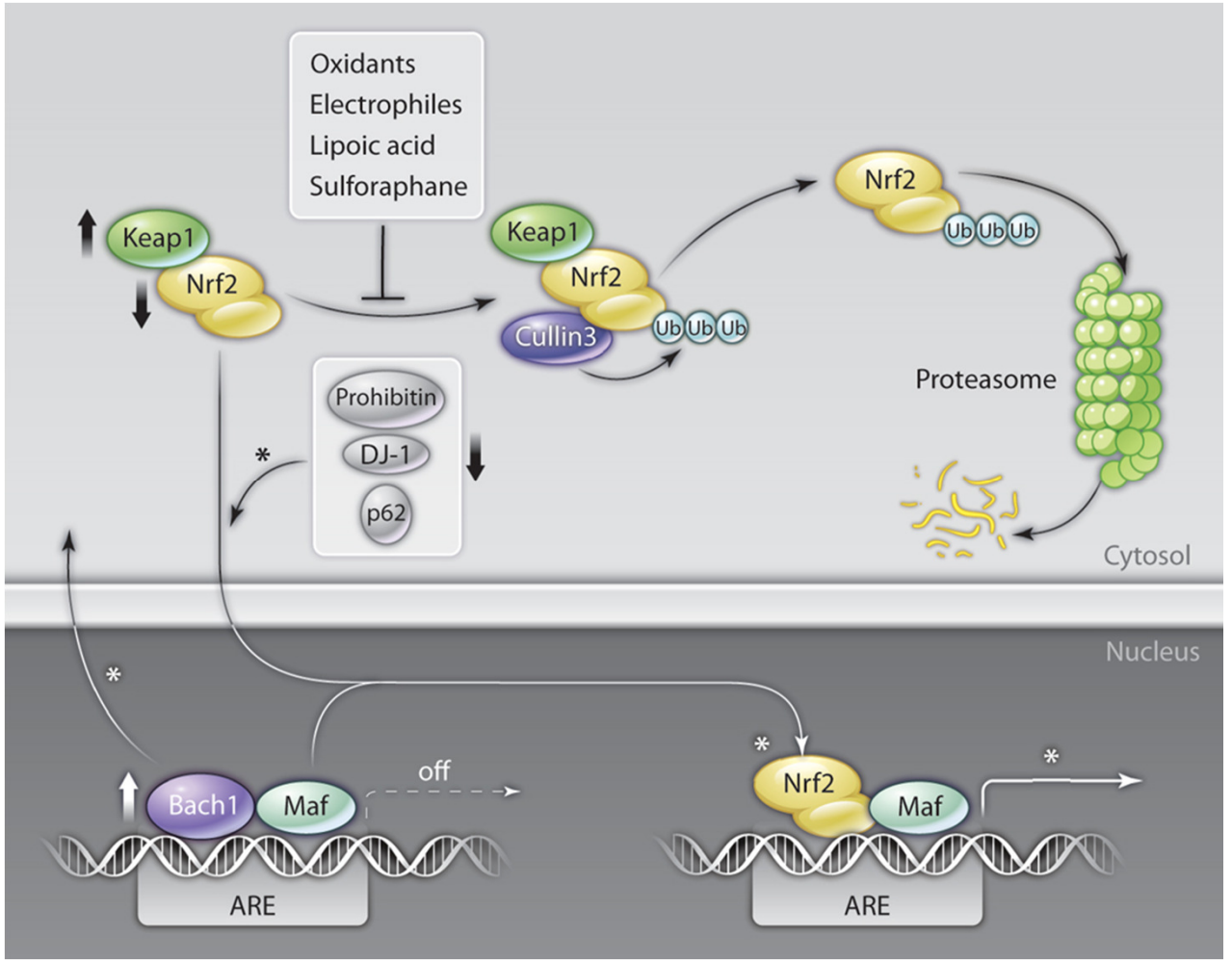
In vivo delivery of transcription factors with multifunctional oligonucleotides

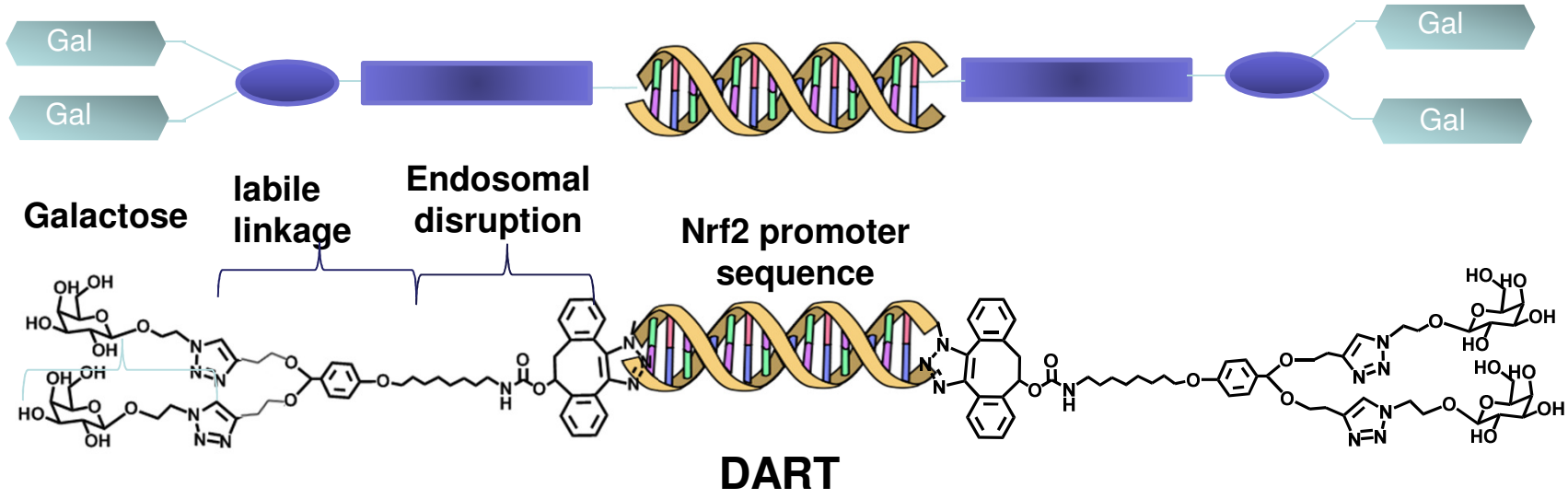
Murthy Laboratory

U.C. Berkeley Department of Bioengineering

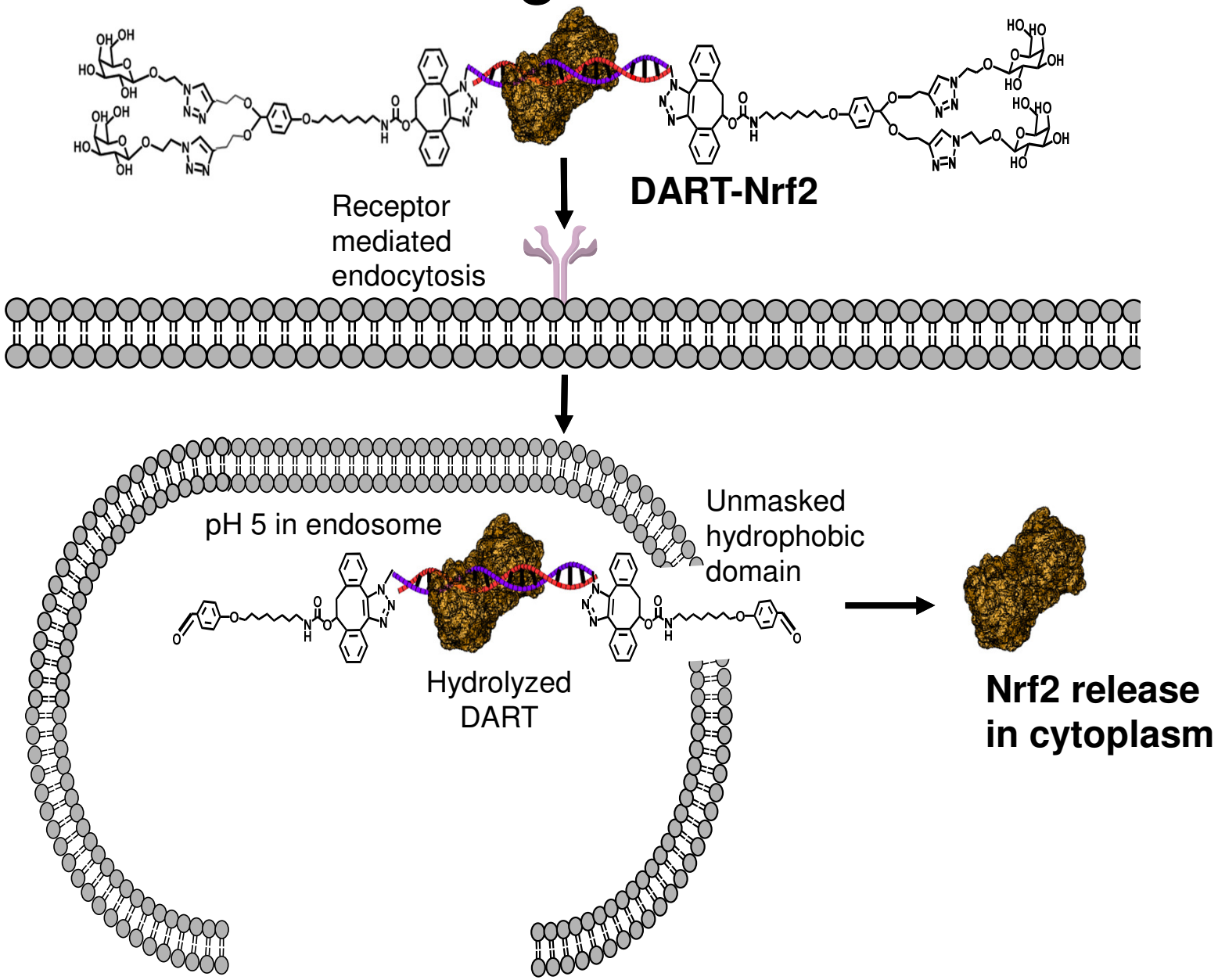
Nrf2 plays a central role in protecting cells from oxidative stress



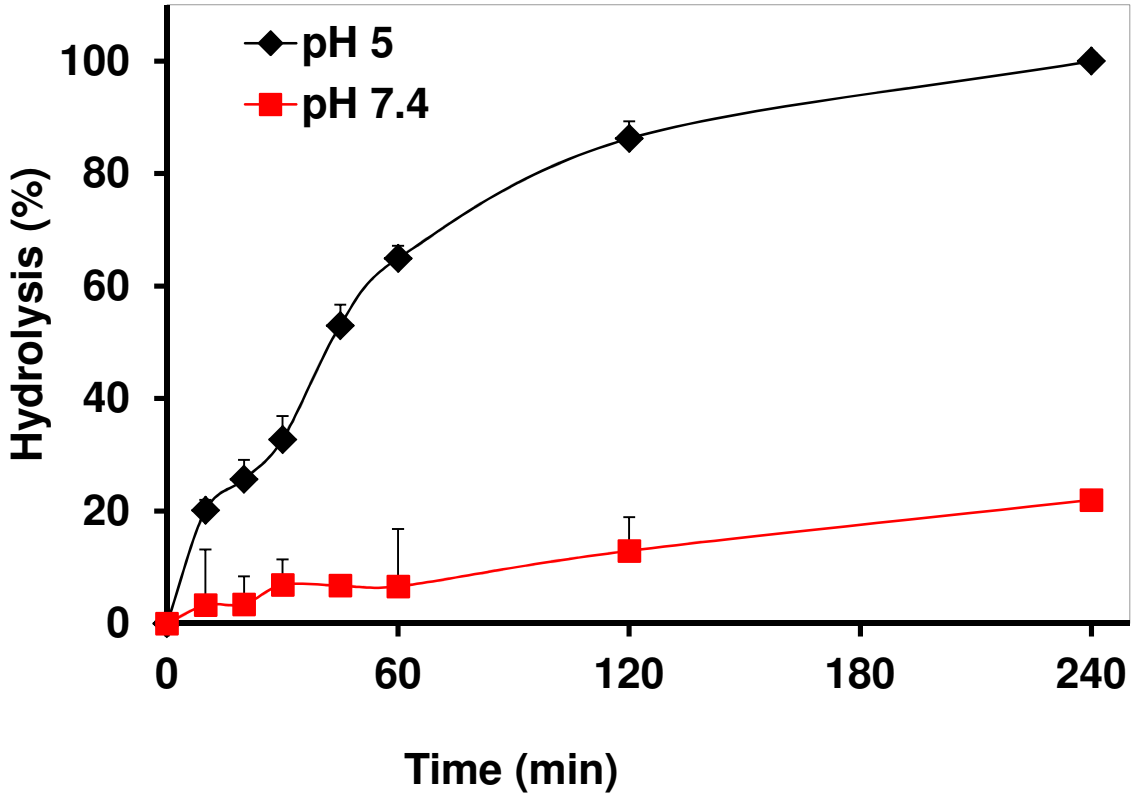
DNA Assembled Recombinant Transcription Factor Delivery (DARTs)



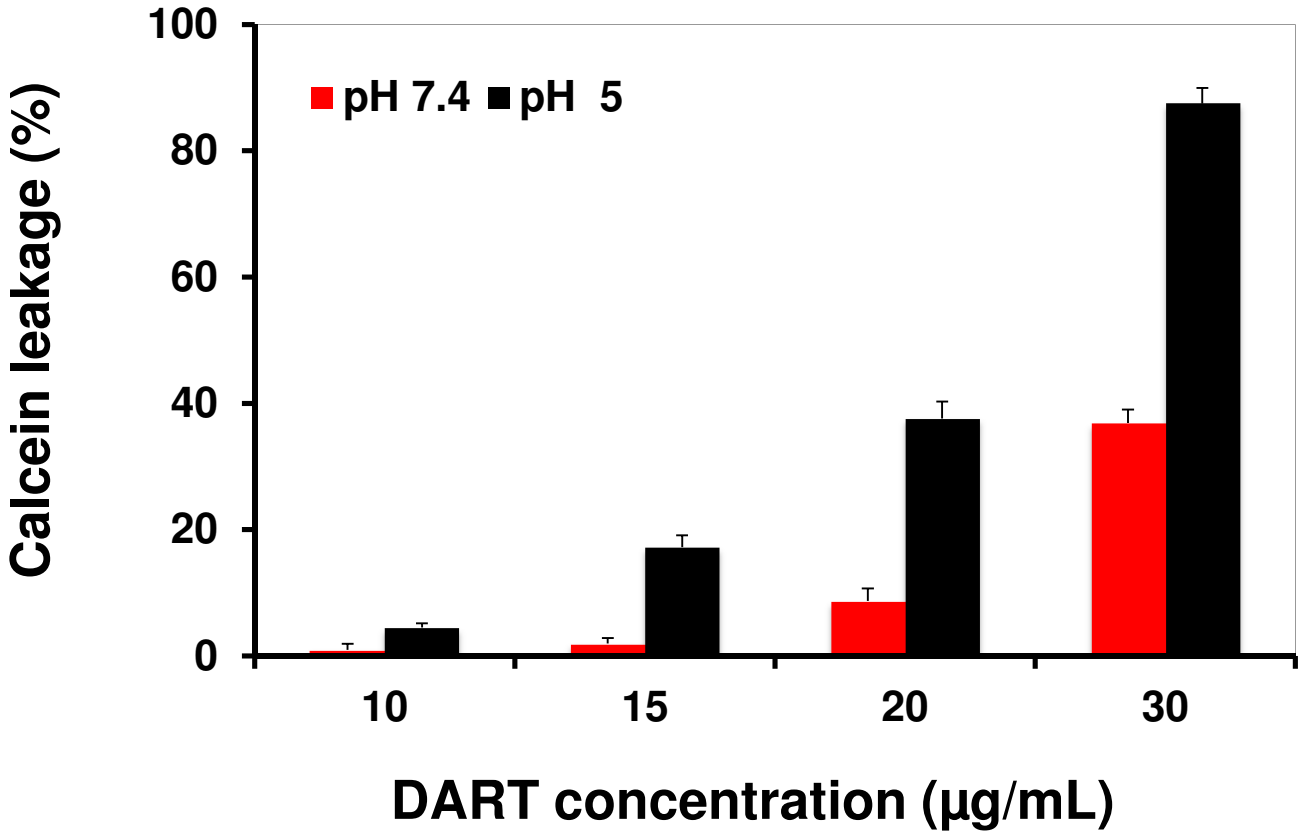
DARTs are designed to deliver Nrf2



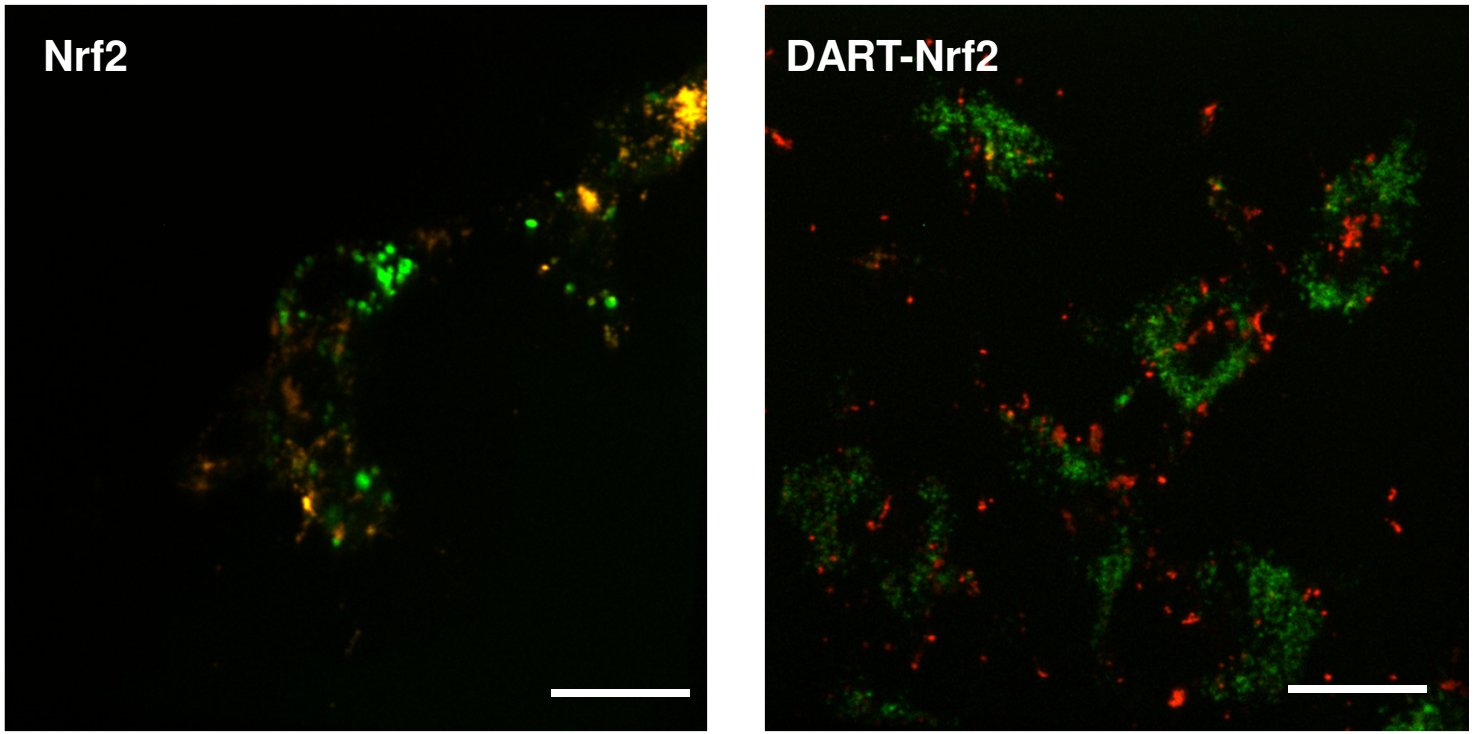
DARTs undergo pH sensitive hydrolysis



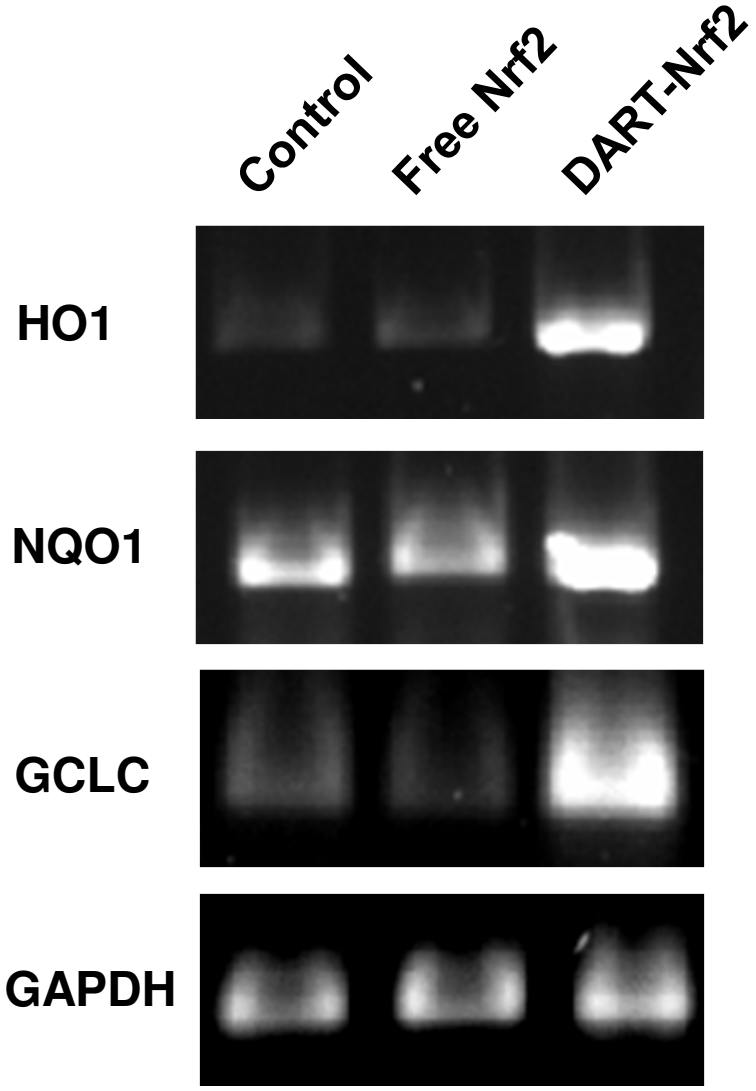
DARTs are pH sensitive membrane disruptive agents



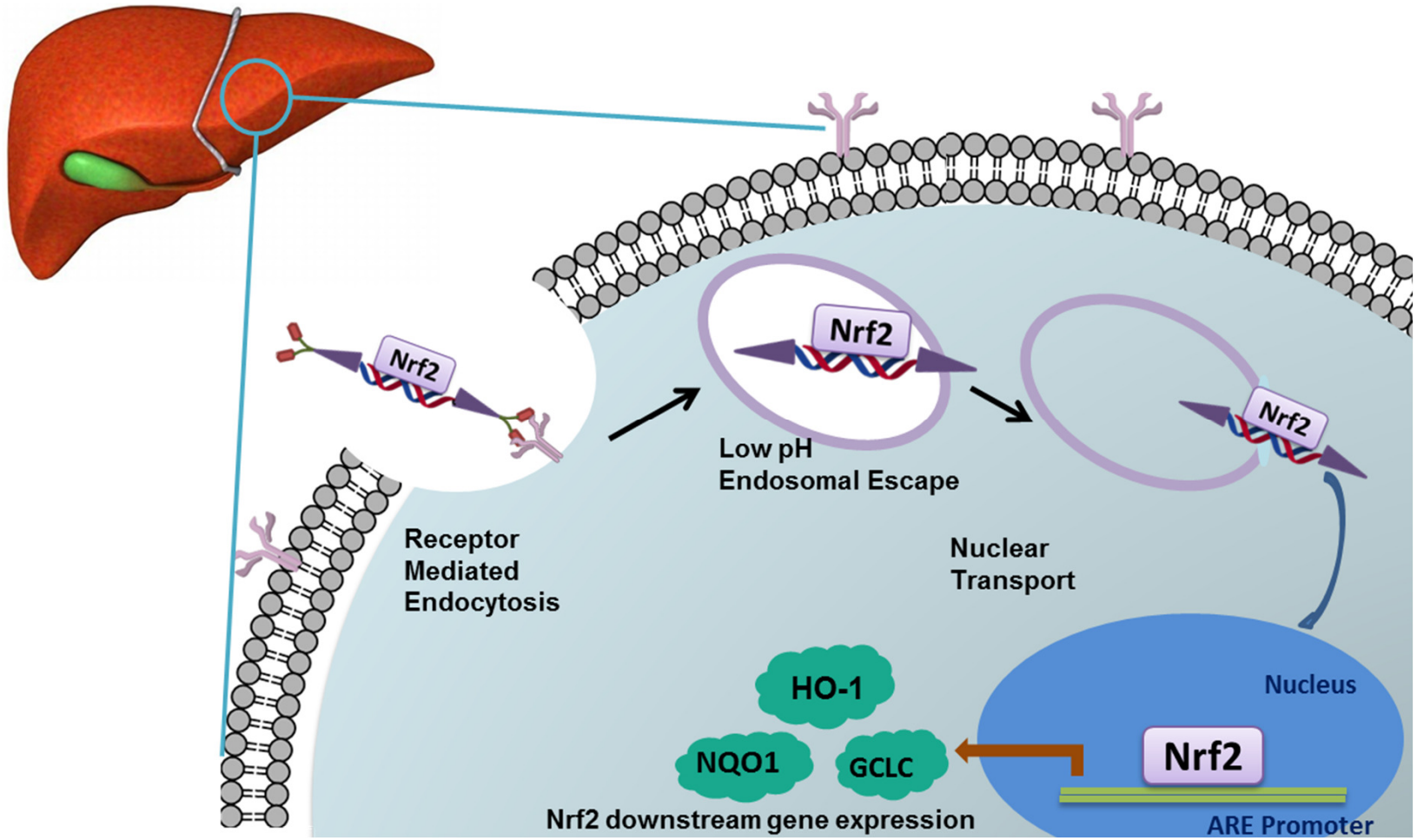
DARTs can deliver Nrf2 to cells



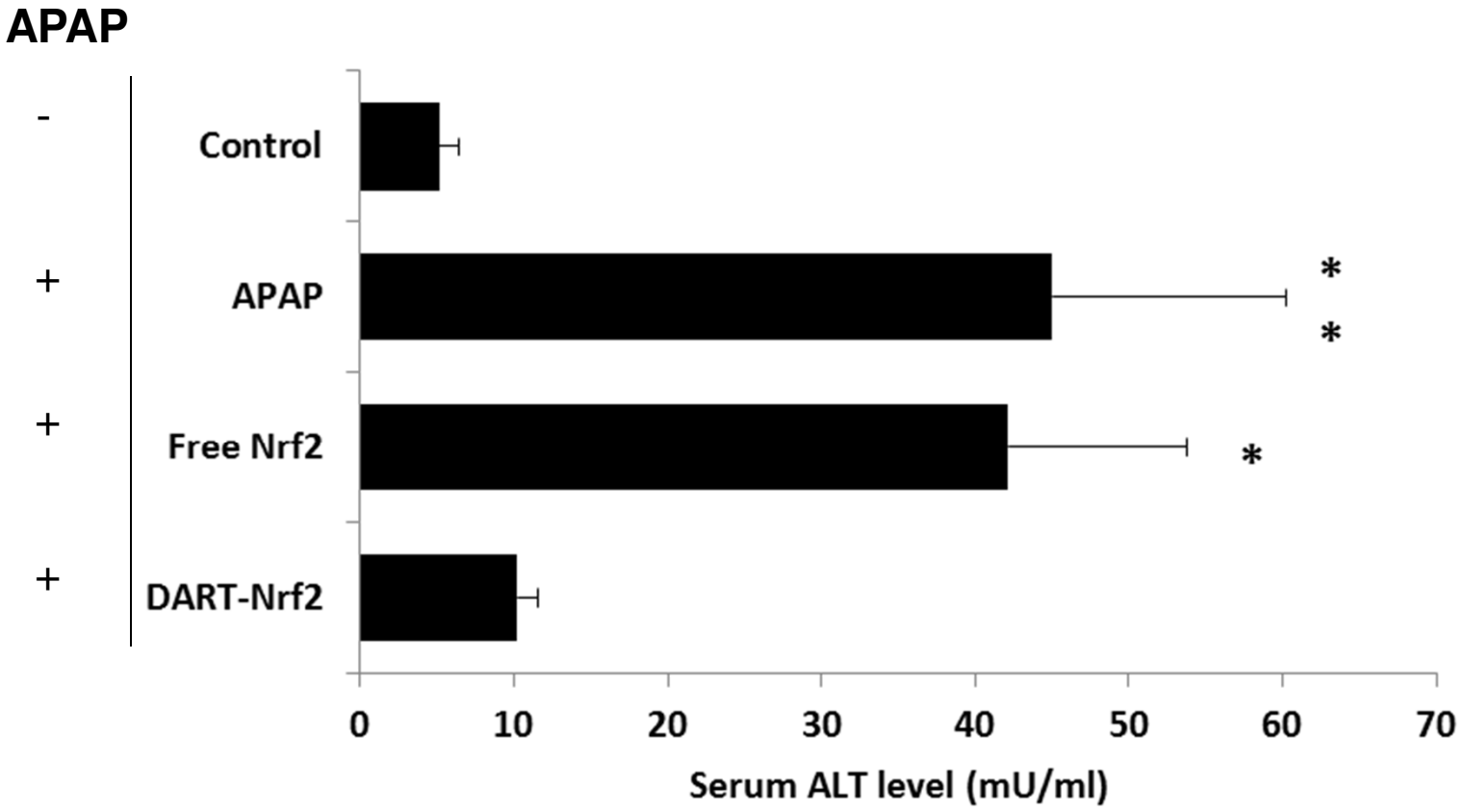
DARTs can deliver Nrf2 to hepatocytes and transcribe downstream genes



DARTs are designed to deliver Nrf2 and treat liver disease

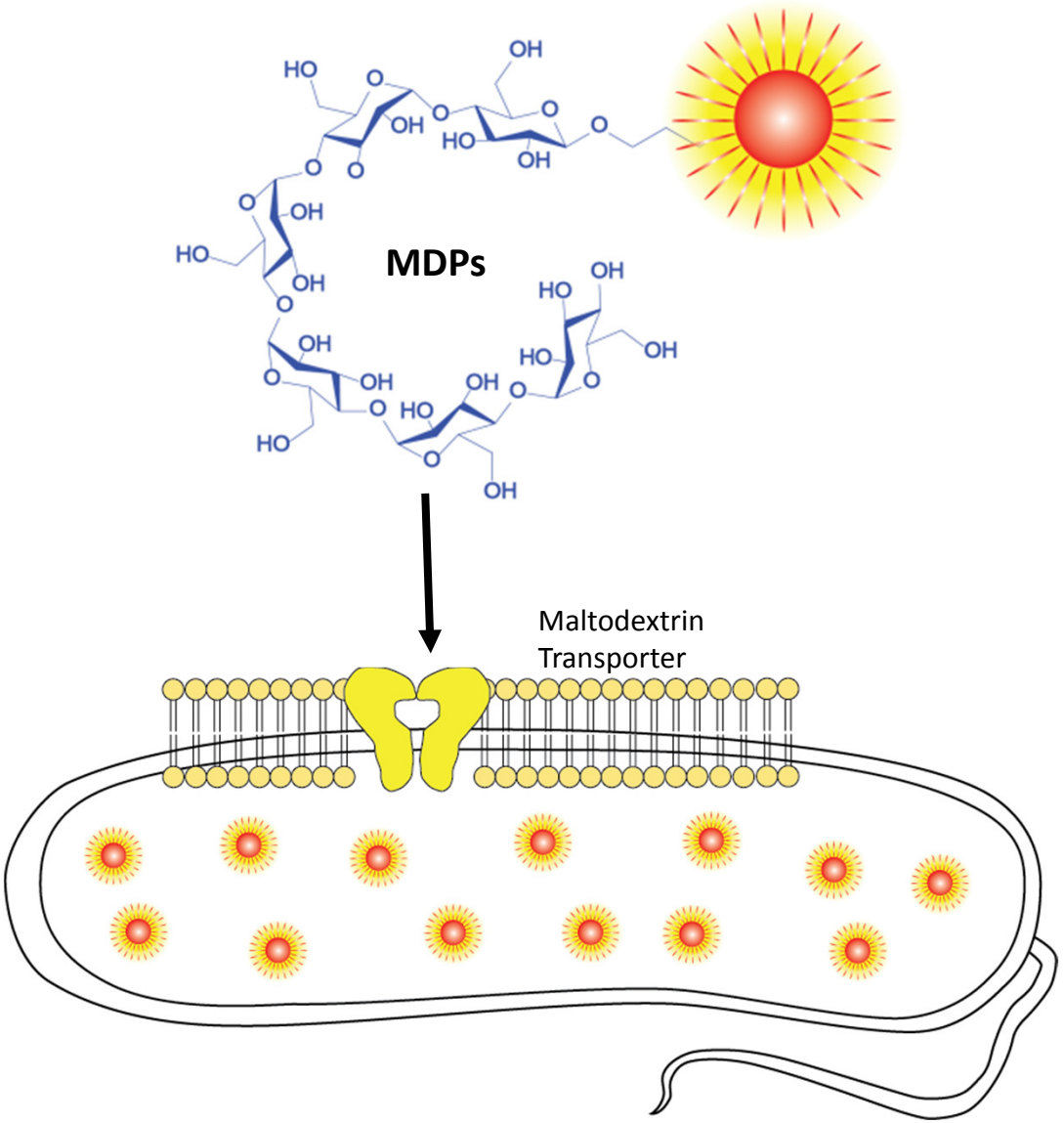


DARTs can deliver Nrf2 in vivo and rescue mice from drug induced liver toxicity



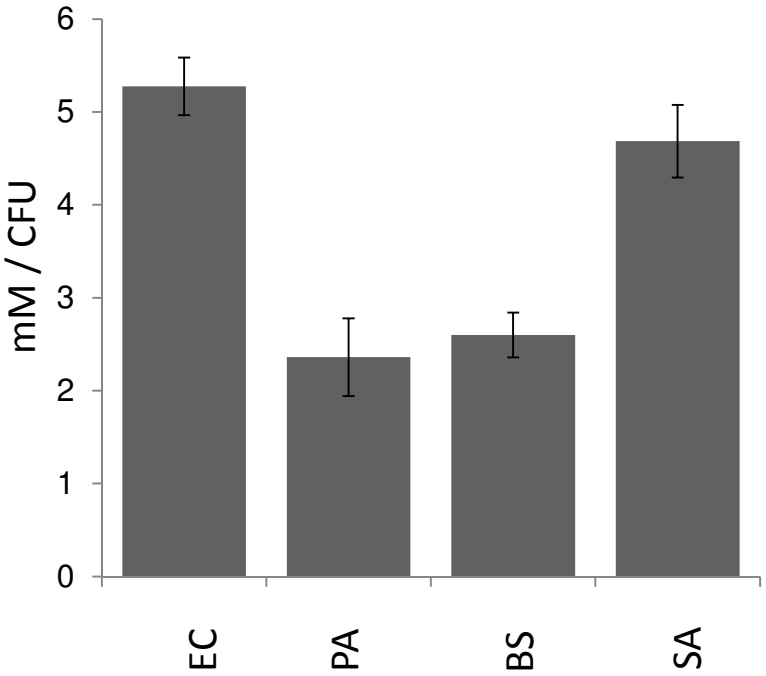
Diagnosing infections at an early stage is a central challenge in medicine

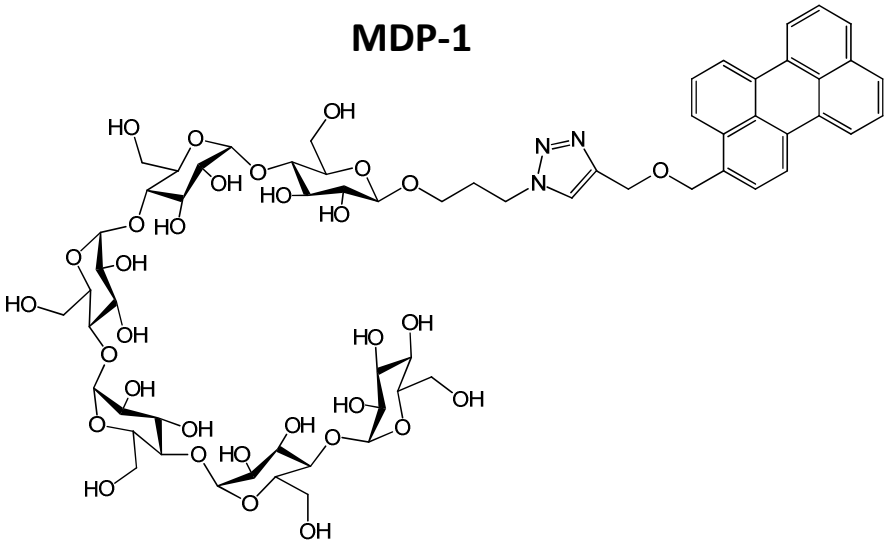
The maltodextrin transporter is an ideal target for imaging bacteria



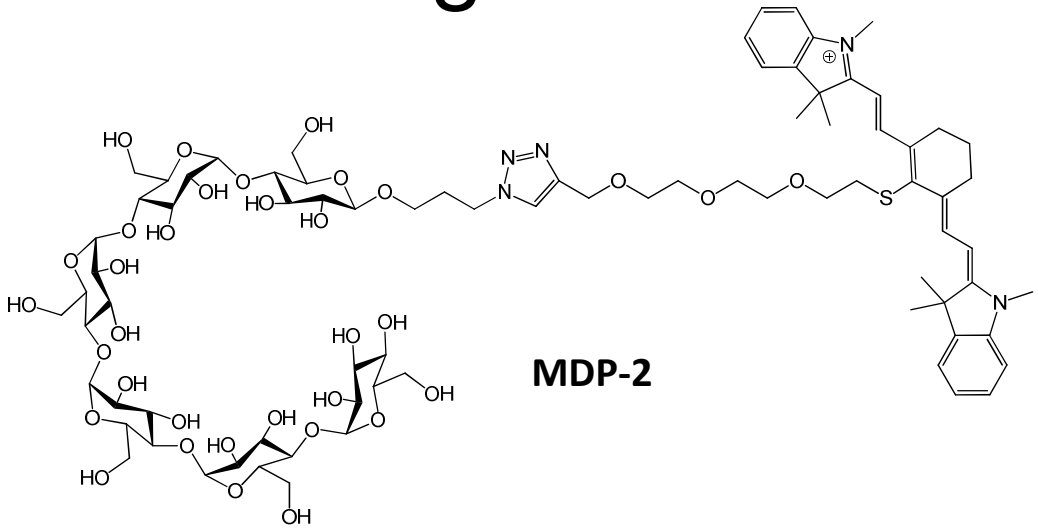
Ning et al.
Nature Materials 2011, 10(8), 602-607.

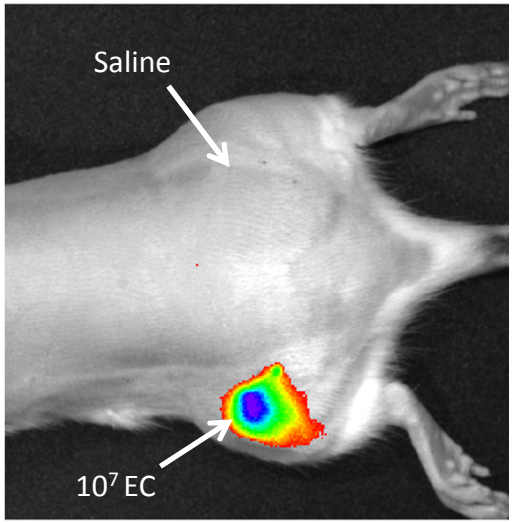
MDPs are robustly internalized by bacteria

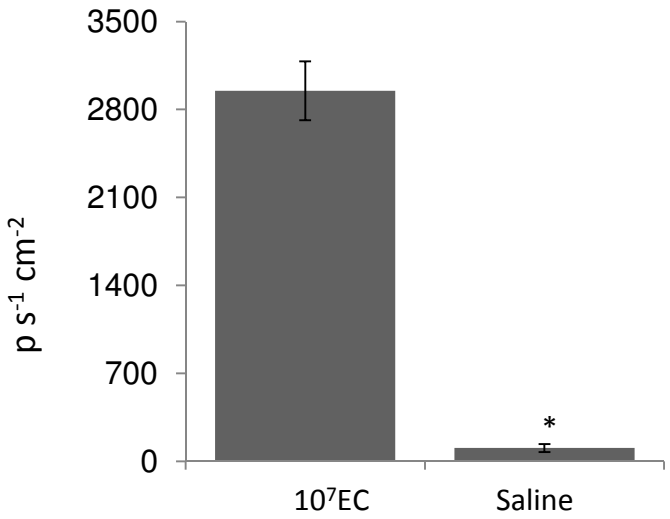




MDPs can image bacteria in vivo

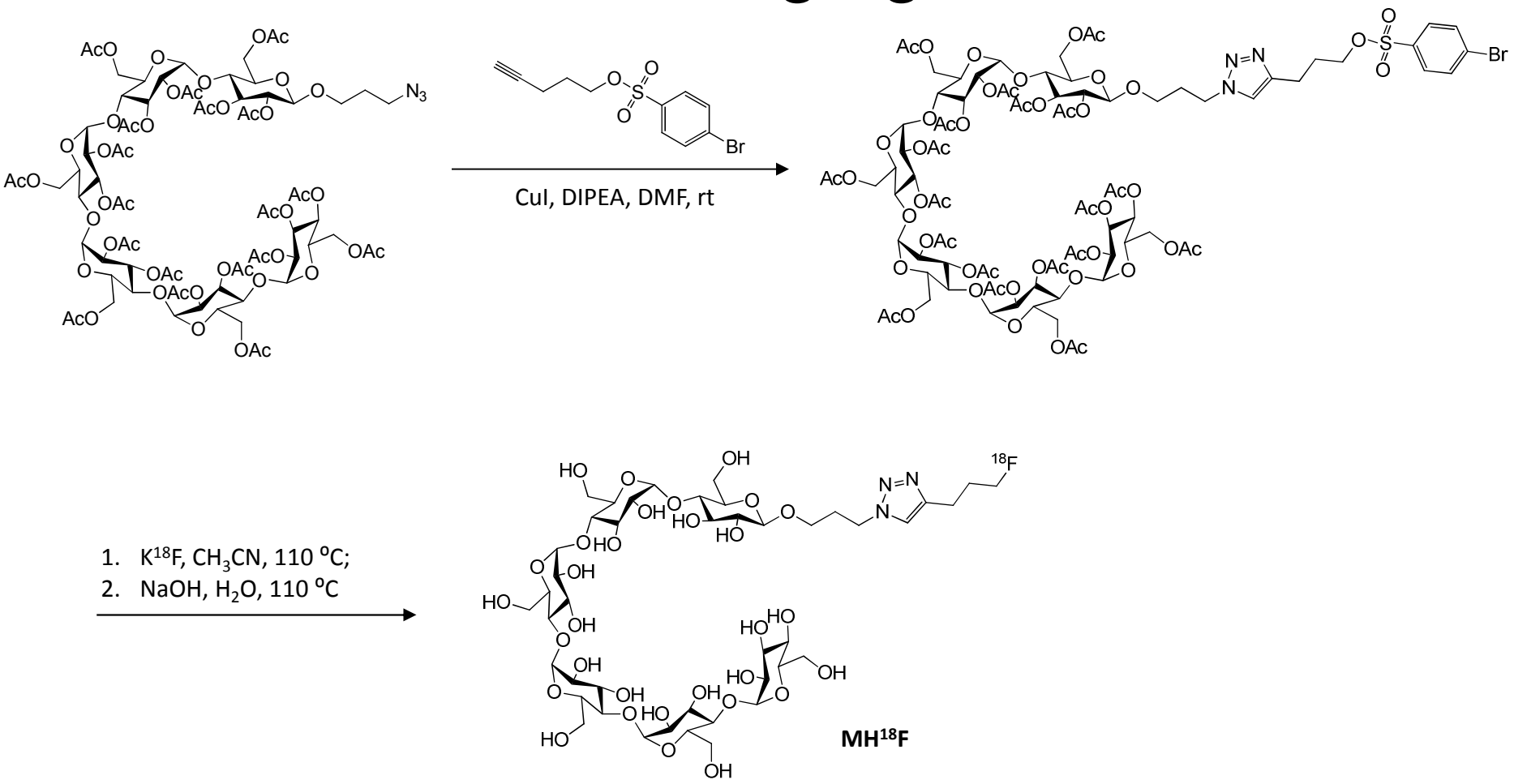






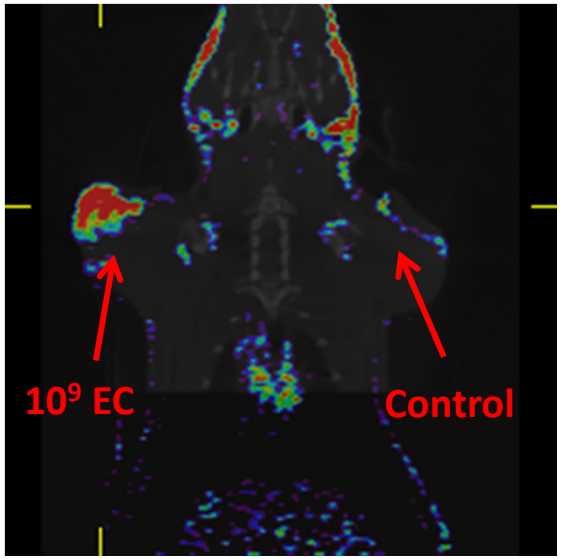
Ning et al. Nature Materials 2011, 10(8), 602-607.

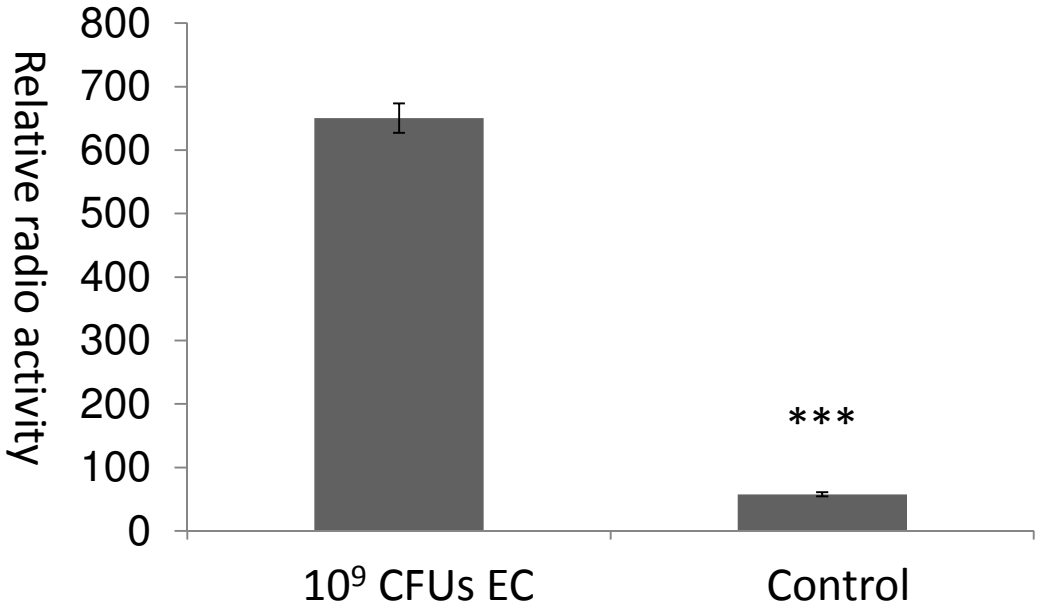
Maltohexaose-^{18}F (MH^{18}F) for PET imaging

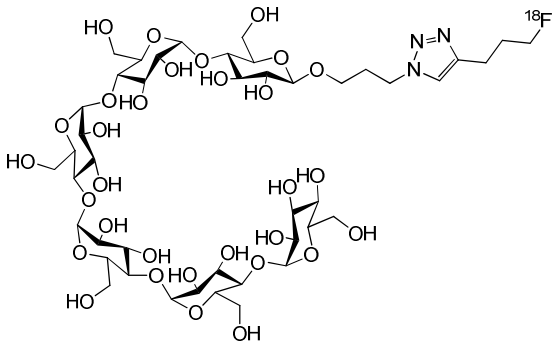


Angewandte Chemie International accepted for publication 2014

MH^{18}F images bacteria by Micro-CT/PET







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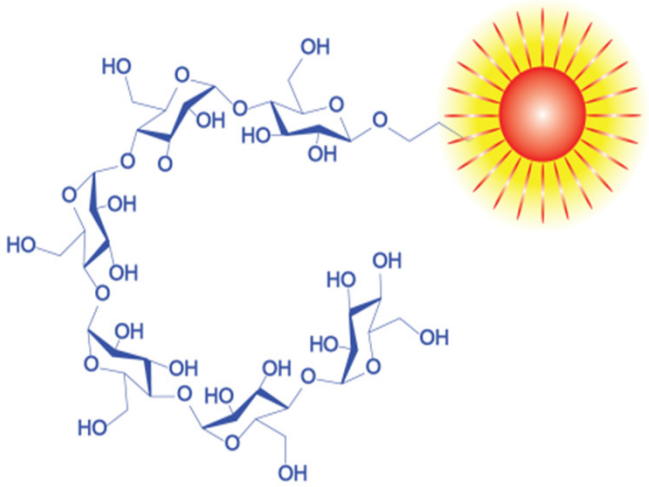
Conclusions

Transcription Factor Delivery

Imaging Bacteria



Acknowledgments

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