Analytical and Bioanalytical Chemistry

Electronic Supplementary Material

Identification of sirtuin 5 inhibitors by ultrafast microchip electrophoresis using nanoliter volume samples

Erik D. Guetschow, Surinder Kumar, David B. Lombard, Robert T. Kennedy

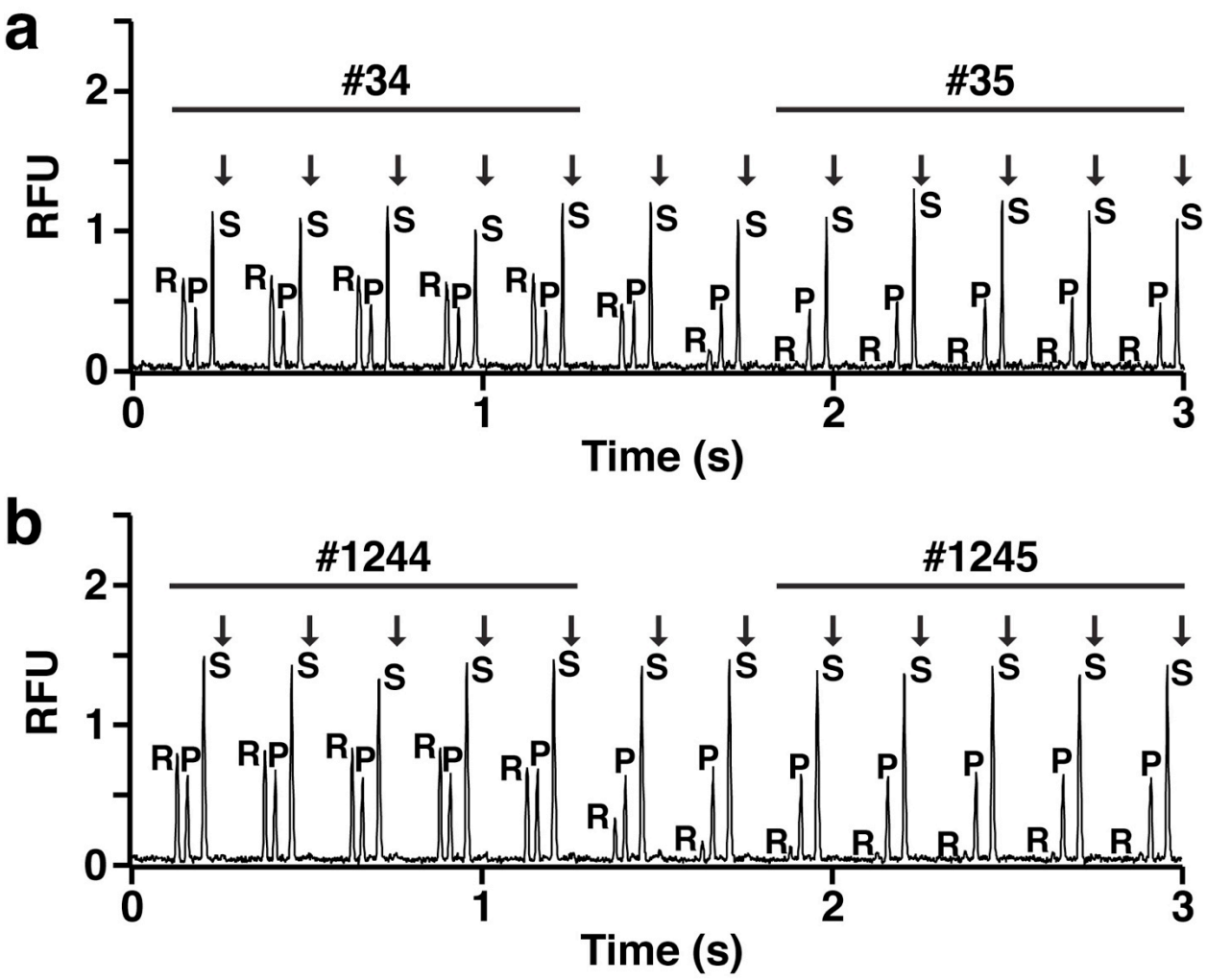

Fig. S1 Representative electropherograms from injections made at the beginning (**a**) and end (**b**) of SIRT5 screening. The compound number is labeled above injections, which are denoted by an arrow. Individual peaks corresponding to rhodamine (R), product (P), and substrate (S) are labeled.

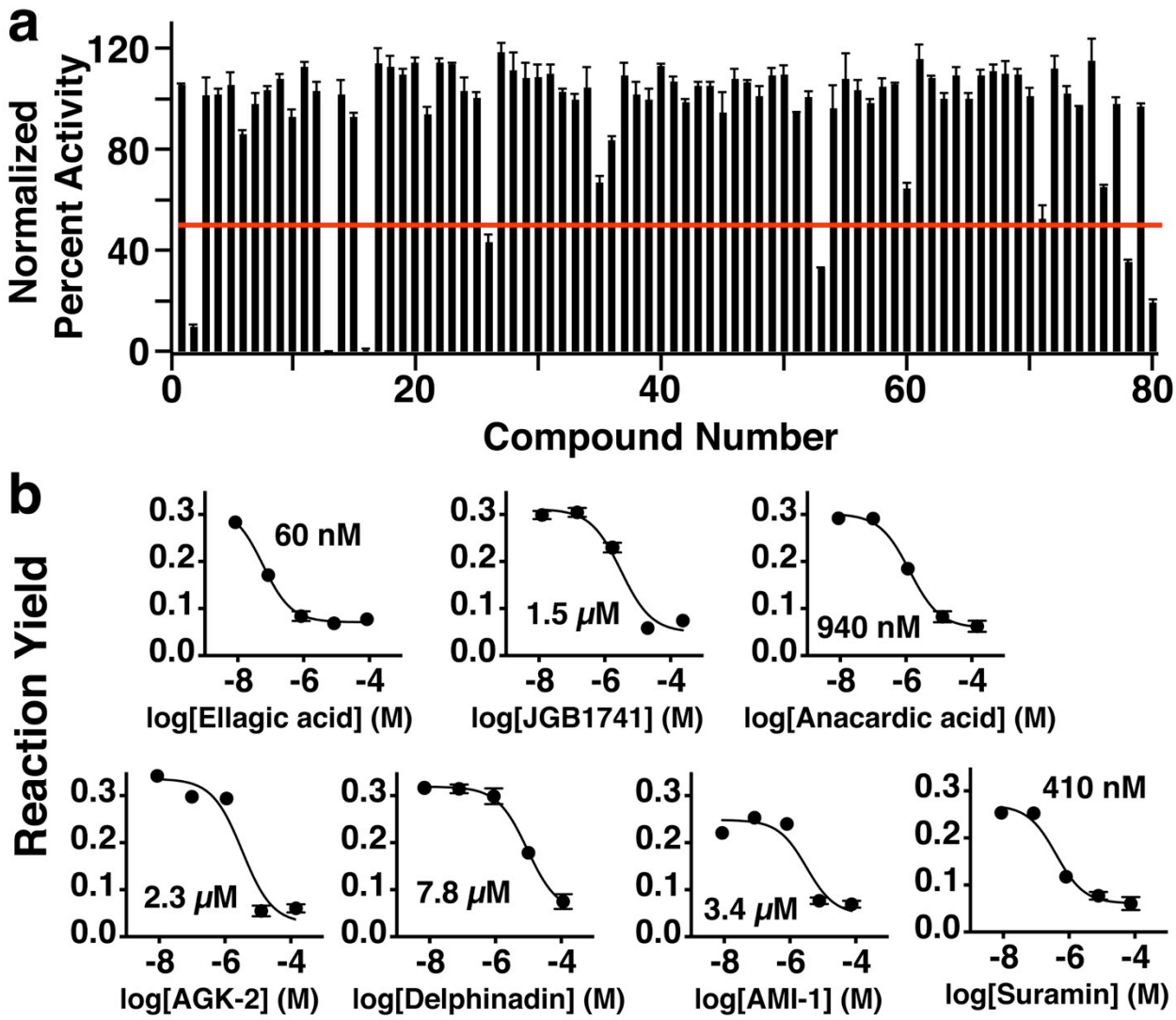

Fig. S2 (**a**) Screening data from SIRT5 assay validation screen using 80 compounds from the Epigenetics Screening Library. Inhibition threshold is denoted by red line. (**b**) Dose-response curves for compounds that reduced SIRT5 activity 50 percent

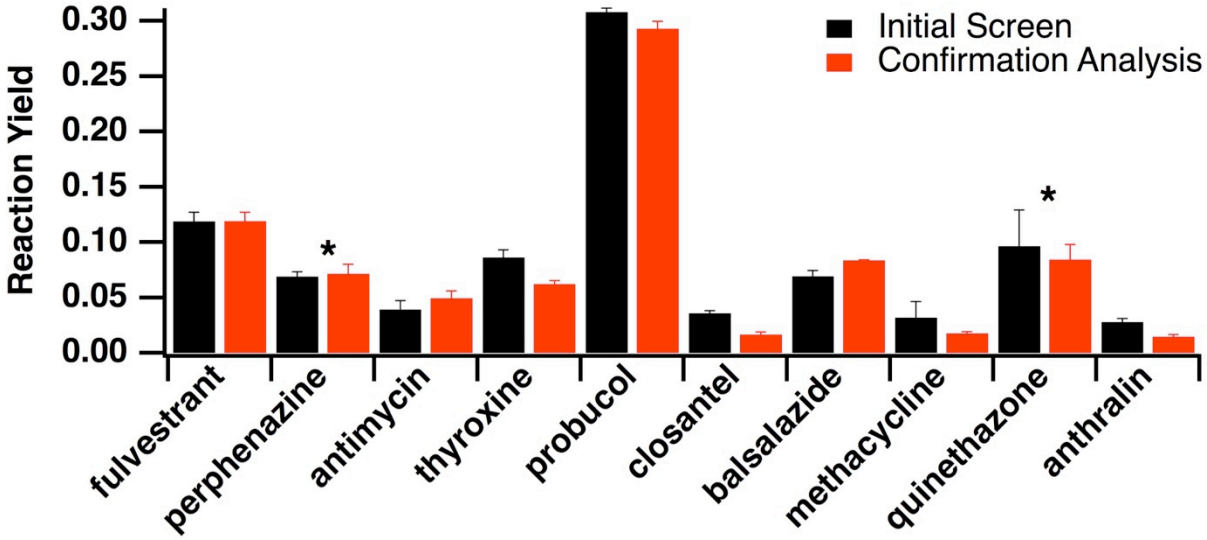

Fig. S3 Confirmation of SIR5 inhibitors during initial screening and demonstration of analysis reproducibility. All compounds identified as reducing SIRT5 activity by 70 percent were formatted into two sample droplets each and re-analyzed by MCE. The reaction yield (P/[P+S]) for each test compound in initial screening (black bars) and re-testing (red bars) are plotted. In all cases, the data from re-testing matches well with initial screening data demonstrating reproducibility of analysis and confirming SIRT5 inhibitors for follow up studies. Compounds labeled with an asterisks (*) were identified as false-positives by dose-response analysis (i.e. dose-dependent inhibition was not observed).