Supporting Information

Cystamine and Disulfiram Inhibit Human Transglutaminase 2 via an Oxidative Mechanism

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SUPPLEMENTAL FIGURES

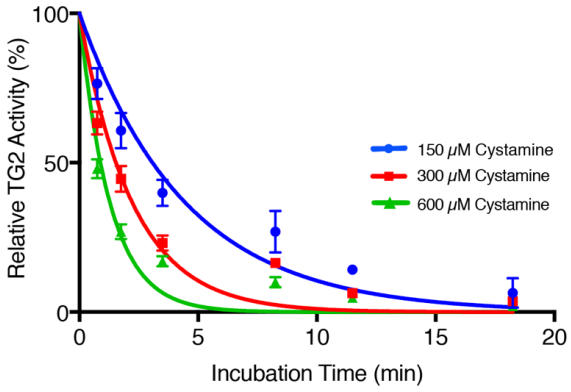

Figure S1. Time- and concentration-dependent inhibition of human transglutaminase 2 (TG2) by cystamine, measured in a deamidation activity assay. Reduced transglutaminase 2 (10 μM) was incubated with 150, 300, or 600 μM cystamine in a buffer of 50 mM Tris, 1 mM EDTA, pH =7.6 at 22 °C. Aliquots were withdrawn at the indicated time points, and diluted 10-fold into deamidation assay buffer (200 mM MOPS (pH = 7.2), 1 mM EDTA, 10 mM α-ketoglutarate, 300 μM NADH, 10 mM Cbz-Gln-Gly, and 36 U/mL glutamate dehydrogenase). The activity of cystamine-treated TG2 at each time/concentration, relative to TG2 maintained in the absence of cystamine, was determined by following the rate of NADH consumption at 340 nm in a plate reader, as described in the literature.[1] Reaction progress curves were linear for at least 30 min, indicating that after dilution into assay buffer, cystamine did not inactivate TG2 at an appreciable rate. Lines were fit to exponential decay eq 1 of the main text, using the nonlinear least-squares fitting algorithm in GraphPad Prism 7.0. Error bars represent the standard deviation of triplicate measurements.