Supplemental Data

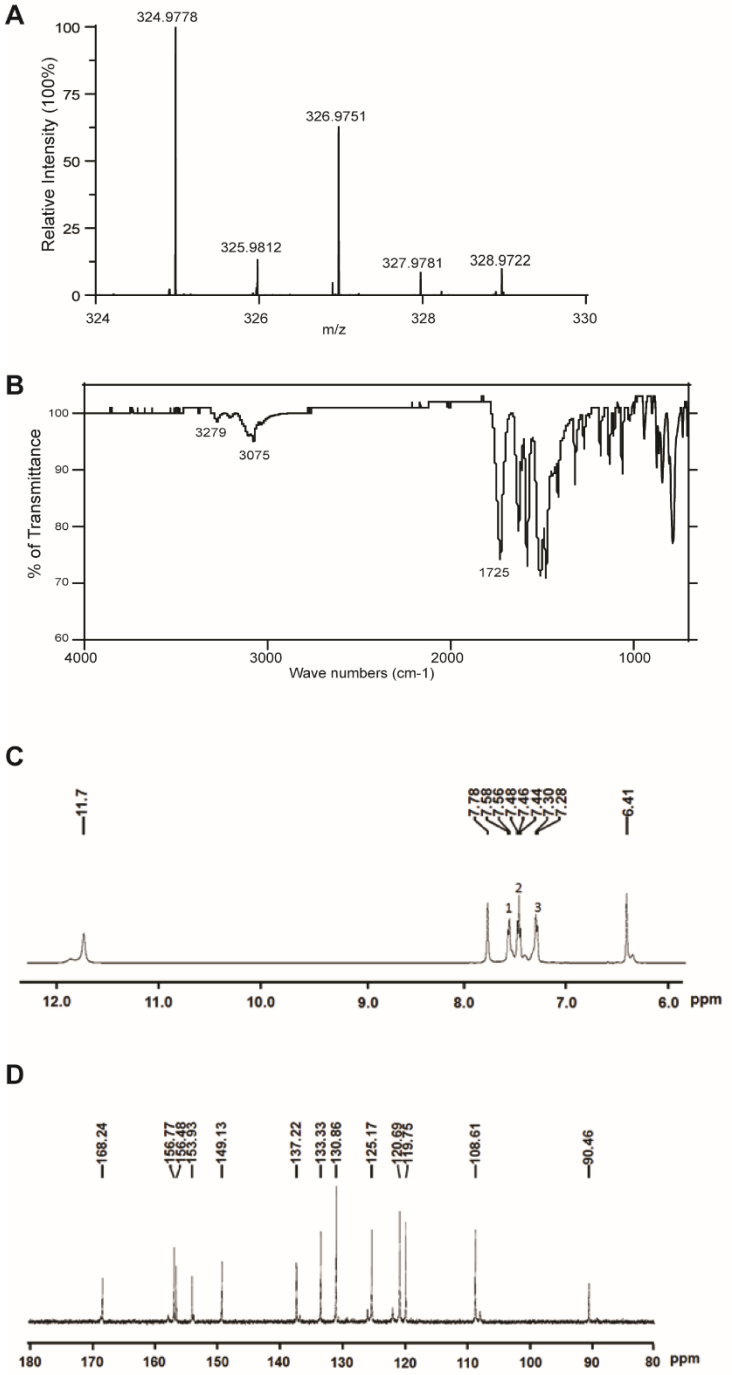

Figure S1. Chemical characterization of NC06. **A**. High resolution mass spectroscopy of NC06. **B**. Fourier-transform infrared spectrum of NC06. **C**. Expansion of ^{1}H NMR spectrum of the compound obtained in DMSO-d6: δ=6.41(s, 1H), 7.29(d, J=7.5 Hz, 1H), 7.46 (t, J=7.5, 7.75 Hz, 1H), 7.57 (d, J=7.75 Hz, 1H), 7.78 (s, 1H), 11.7(s, 1H) ppm. **D**. Expansion of ^{13}C NMR spectrum of the compound obtained in DMSO-d6: δ= 90.46, 108.61, 119.75, 120.69, 125.17, 130.86, 133.33, 137.22, 149.13, 153.93, 156.48, 156.77, 168.24 ppm.

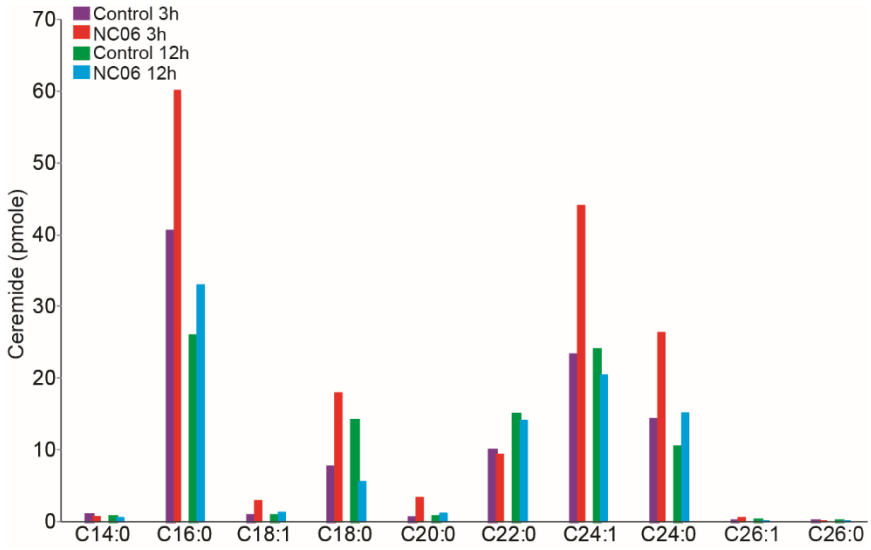

Figure S2. Asah2 catalyzes ceramide degradation in MDSCs. BM cells were cultured with GM-CSF to induce MDSCs for 5 days. The BM-MDSCs were then treated with NC06 (10 μM) for 3 and 12h, respectively and analyzed for the indicated ceramide.

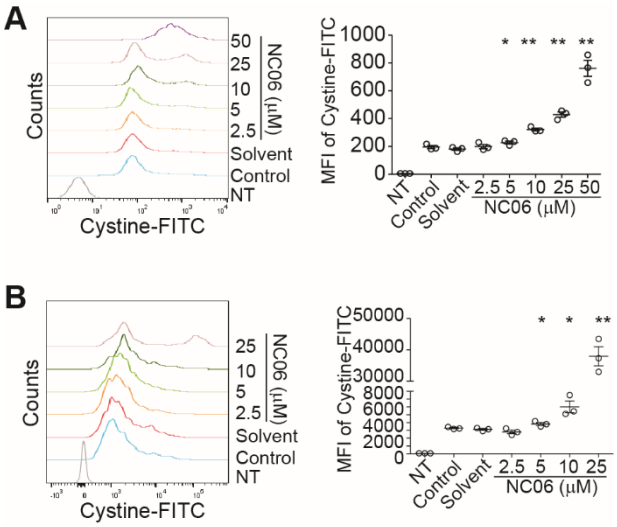

Figure S3. Inhibition of Asah2 increases cystine uptake in MDSCs. **A**. J774M cells were treated with NC06 as indicated for 24h. Cells were then incubated with cystine-FITC and analyzed by flow cytometry. Shown are histograph (left panel) and MFI (right panel). * $p<0.05$; ** $p<0.01$. **B**. BM-MDSCs were treated with NC06 as indicated for 24h. Cells were then incubated with cystine-FITC and analyzed by flow cytometry. Shown are histograph (left panel) and MFI (right panel). * $p<0.05$; ** $p<0.01$.

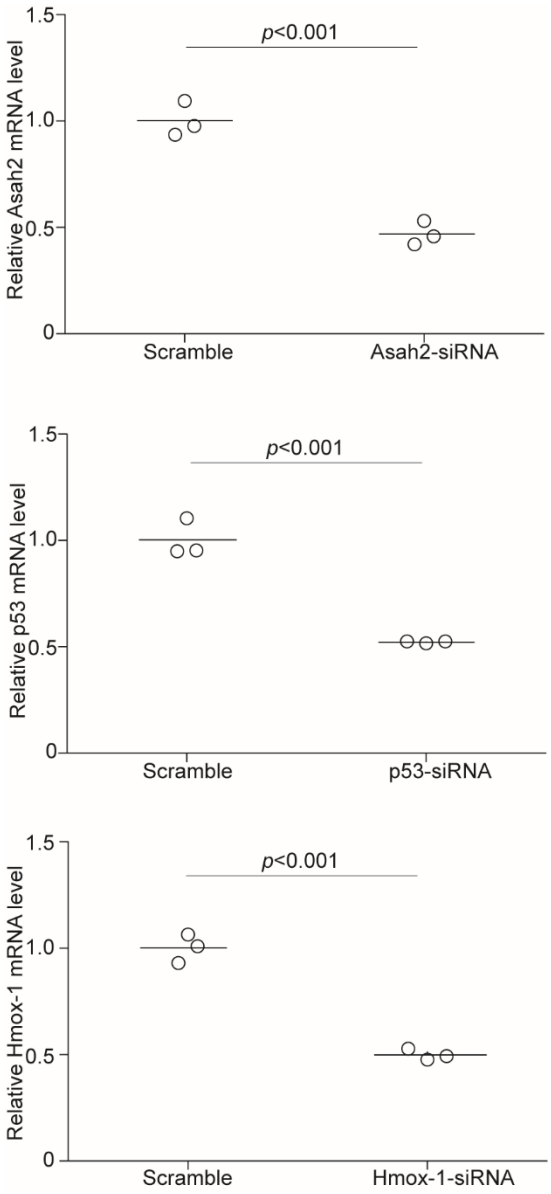

Figure S4. siRNA-mediated silencing of Asah2, p53 and Hmox-1 in MDSC-like cells. J774M cells were transfected with scramble siRNA, and siRNAs that are specific for Asah2, p53 and Hmox-1, respectively, for 24h. Cells were analyzed for silencing efficacy by qPCR as indicated.