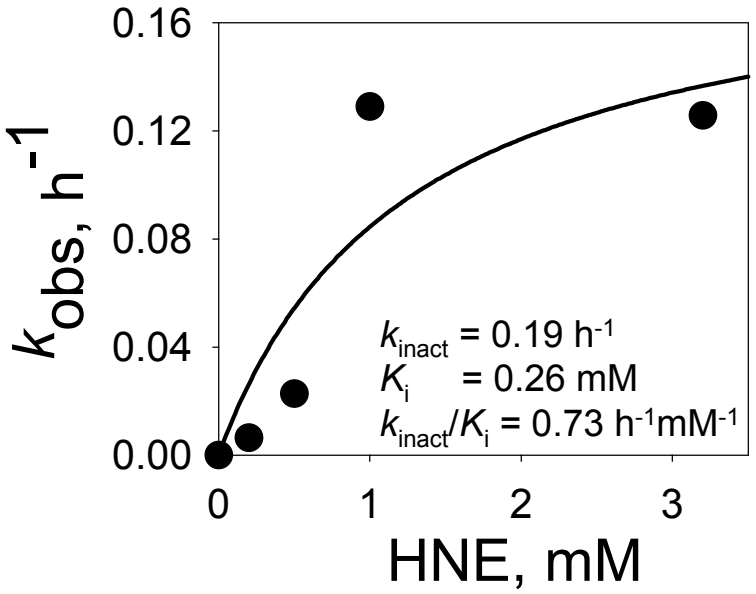
Supplementary Figure Legends

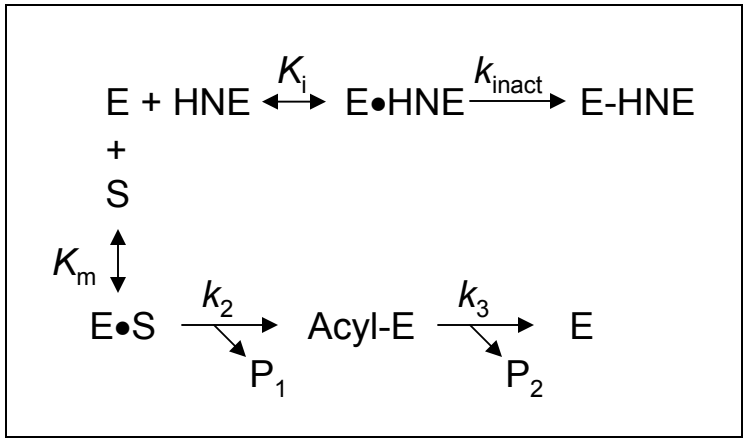
Supplementary Fig. 1. First-order rate constant of CES1 inhibition (k_{obs}) versus HNE concentration. k_{obs} values for each HNE concentration were obtained by fitting data in Fig. 1C to the eqn. $\%inhib = \%inhib_{max}\,(1\text{-}e^{-kobs*t})$. Data in plot shown were fit to the eqn. $k_{obs} = k_{inact}*[HNE]/[K_i*(1+[S]/K_m) + [HNE]]$, where [S] = 500 µM *p*NPV and K_m (*p*NPV) = 136 µM. The bimolecular rate constant that describes the chemical reaction between CES1 and HNE is defined by k_{inact}/K_i. This analysis assumes that the E-HNE covalent complex is catalytically inactive.

Supplementary Fig. 2. Relative quantitation of the unmodified and modified KENIPLK peptide from CES1 recombinant protein treated with different amounts of HNE. The recombinant CES1 protein was treated with 0.1 mM (A) or 1 mM HNE (B). The modified proteins were analyzed by SDS-PAGE and Coomassie staining, followed by tryptic digestion of the excised bands and LC-MS/MS analysis by OrbiTrap Velos. The CID fragmentation to confirm peptide identity as well as HNE-mediated modification was done exactly as described in Figure 2 (Figure 2 and data not shown). The extracted ion chromatograms of the HNE-modified KENIPLK peptide on Lys105 [retention time (RT) of 25.75 min., A; RT of 26.35 min., B) and unmodified KENIPL peptide (RT of 1.69 min., A; RT of 1.57 min., B) were done in Xcalibur Qual Browser software using Gaussian smoothing by 5 points, followed by calculation of the area below peaks. Thus measured peptide quantity was used to calculate the relative ratio of modified to unmodified KENIPL peptide in each sample (C). The data indicate that the amount of HNE-mediated modification of Lys105 is positively correlated with the amount of HNE used to react with CES1, which confirms our findings that HNE modifies this residue.

Supplementary Fig. 3. Trypan blue assay of THP-1 monocytes treated with HNE for 2 h or 17 h. Cells were incubated with indicated amounts of HNE in complete growth medium for indicated times, followed by trypan blue assay to determine % dead cells.

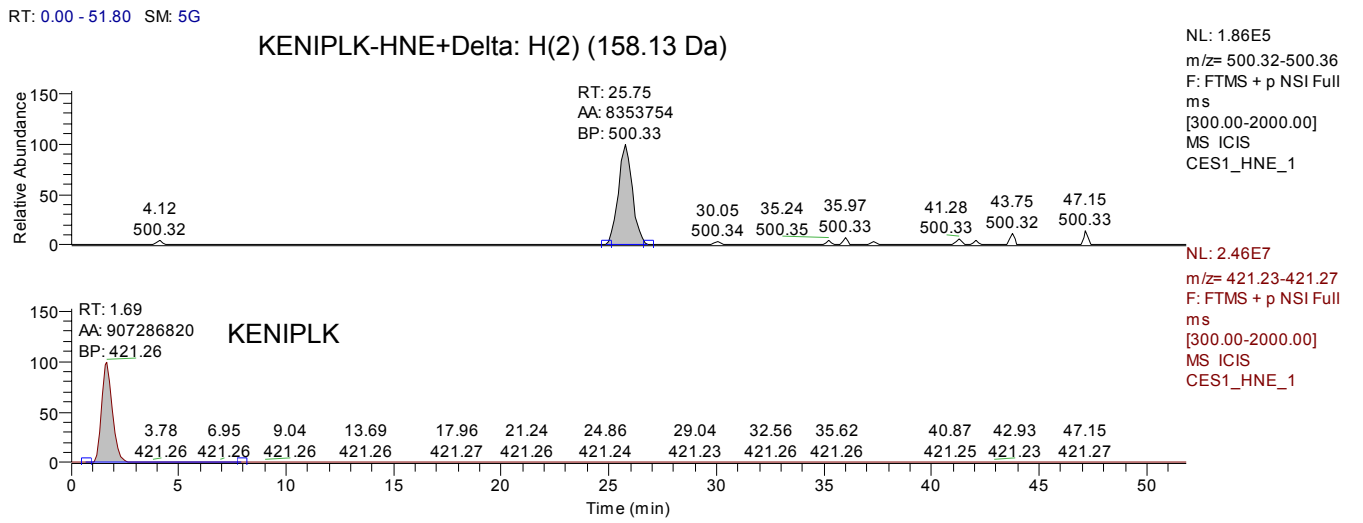
Supplemental Figure 1



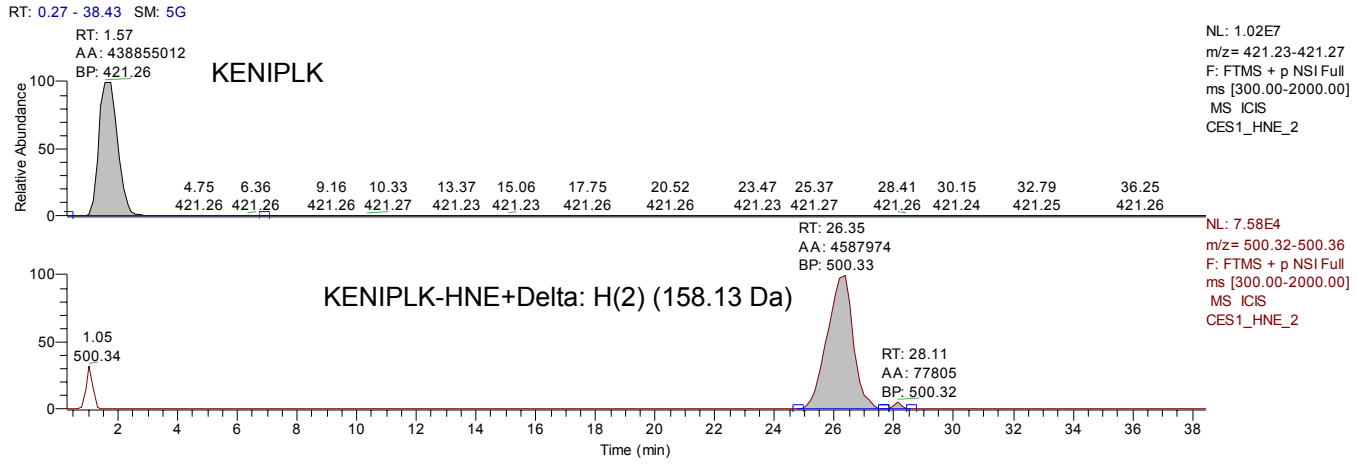


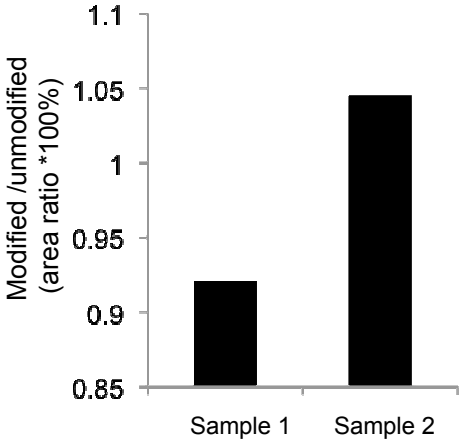
Supplemental Figure 2

HNE – Sample 1 (0.1 mM HNE)



HNE – Sample 2 (1.0 mM HNE)





Supplemental Figure 3