

SUPPLEMENTARY FIGURE LEGENDS

SI Figure 1. | Clinical study design.

The participants then received sulforaphane (SFN) as two gel caps daily for 1-week after baseline blood draw and MRS scan. Urine collections at both pre- and post- SFN administration were made to confirm participant adherence to the oral SFN by measurement of SFN metabolites. After 1-week administration, study participants had a second blood draw and MRS scan. The data of pre- and post- SFN administration were compared.

SI Figure 2 | MRS

- (a) Representative LCModel fitted *in vivo* spectrum (from the ACC). The primary outcome measure, GSH, is shown in red. The secondary outcome measures are shown in black.
- (b) Representative T1-weighted MPRAGE images illustrating volume of interests (VOIs) as white boxes in three brain regions.
- (c) Metabolite concentrations in ACC measured before (pre) and after treatment (post) in 8 subjects.
- (d) Metabolite concentrations in HP measured before (pre) and after treatment (post) in 6 subjects. A significant increase in GSH ($p = 0.041$) concentration is observed following 1-week administration of sulforaphane.
- (e) Metabolite concentrations in THAL measured before (pre) and after treatment (post) in 8 subjects. A significant increase in Gln levels in the THAL is observed post treatment with sulforaphane Gln ($p = 0.017$) after the treatment. Indicative trend of increase in GSH levels in the THAL ($p = 0.094$).

SI Figure 3 | Measurement of GSH levels in THAL using MRS.

THAL GSH levels following a 1-week administration of sulforaphane (SFN). The 6 subjects included reflect those that had data for both MRS for the THAL and blood biochemistry.