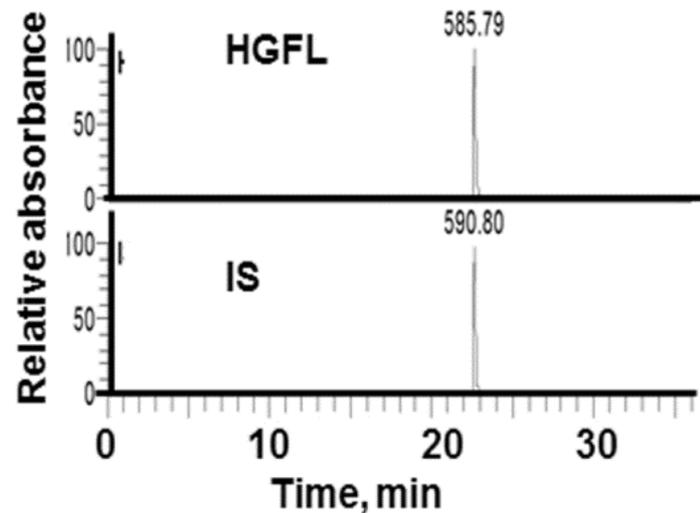
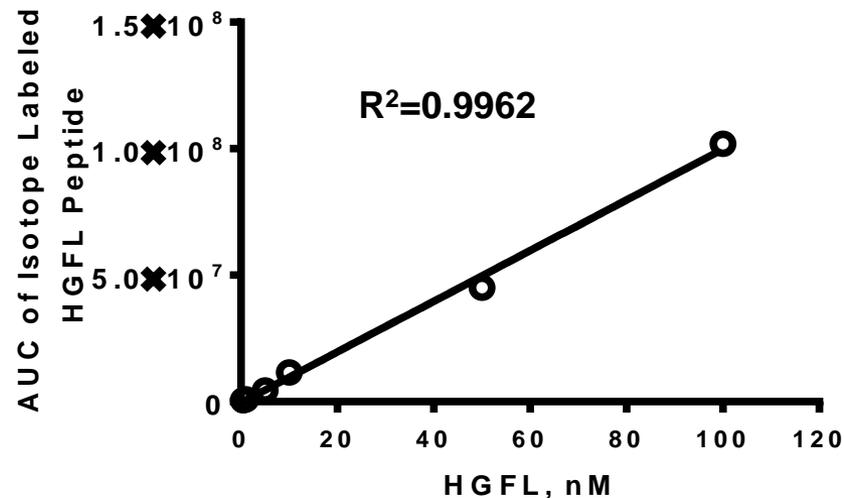
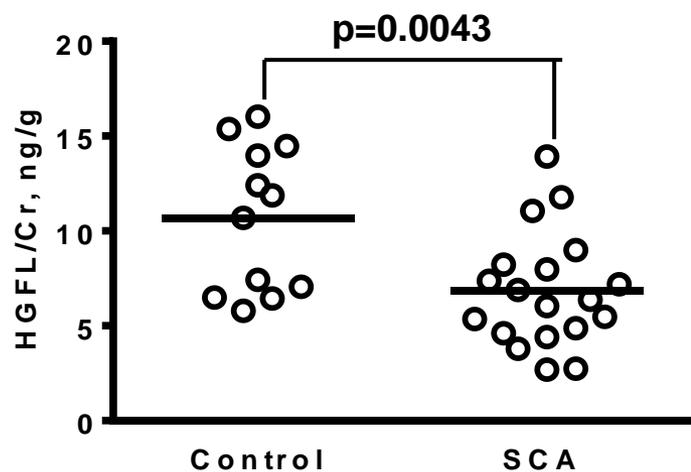
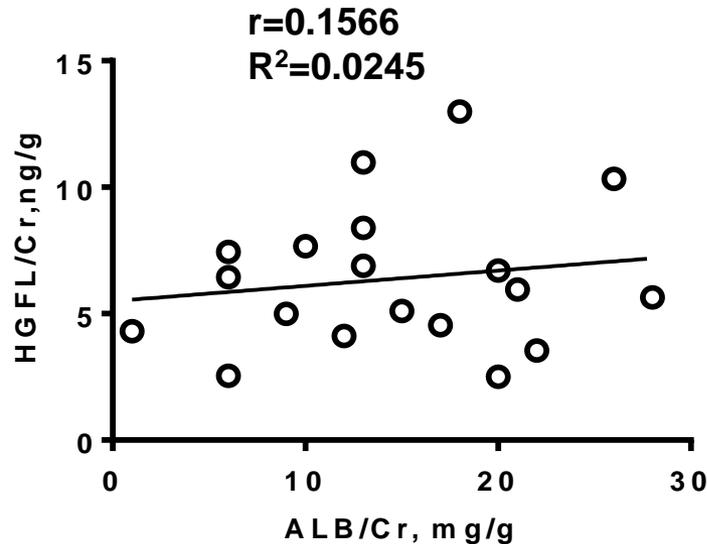
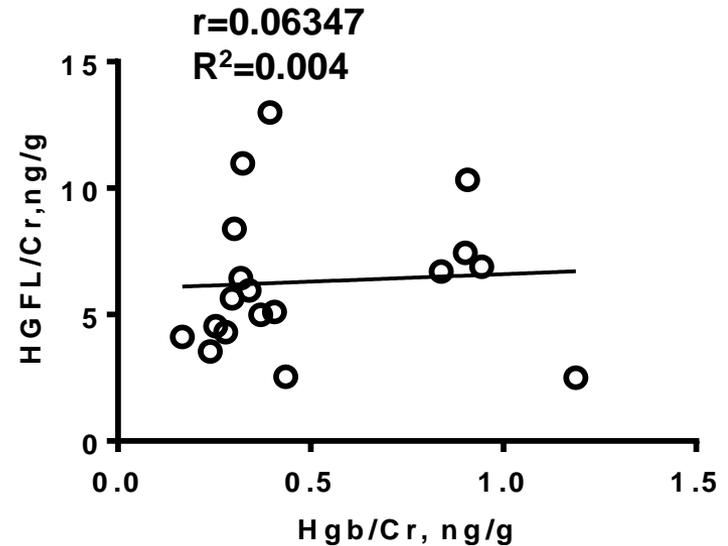


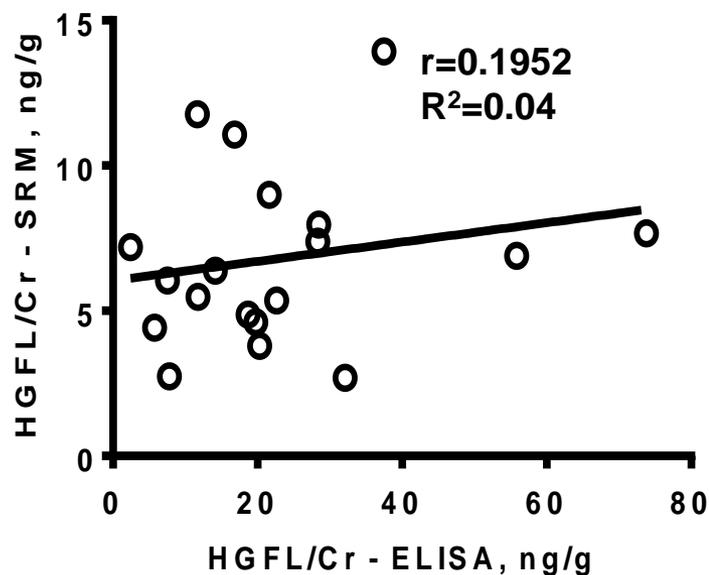
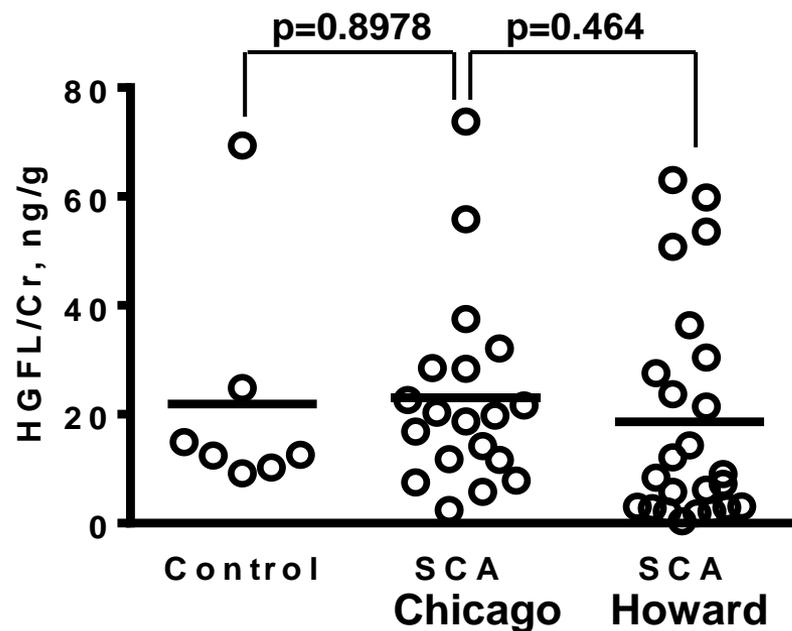
Supplemental Figure 1. Urinary HGFL levels increase in the SCA subjects with hyperfiltration. Label-free quantitative analysis by SIEVE 2.1 software of the high resolution MS spectra produced by Orbitrap MS scans. 20 samples from SCA subjects without kidney disease (Chicago cohort) are separated into two groups: subjects with hyperfiltration (N=13) and subjects patients with normal filtration rate (N=7), and mass-spectrometry is run in triplicates. (A) Volcano plot showing log (ratios) versus log (p -values) for peptides values measured in the samples collected from SCA subjects with hyperfiltration compared to samples collected from SCA subjects with normal filtration. Peptides values are normalized to urine creatinine concentration. (B) Average intensities for EDQTSPAPGLR peptide from HGFL. Peptide levels detected in two samples with hyperfiltration are shown in red colors. Peptide levels detected in two samples with normal filtration are shown in blue colors. Samples are selected from groups based on the reproducibility of spectra between triplicates. Intensities are higher in samples with hyperfiltration (ratio 2.86, $p=4.5 \times 10^{-6}$)

A**B****C**

Supplemental Figure 2. Development of the selected reaction monitoring (SRM) mass-spectrometry method for detection of urinary HGFL. (A) Representative spectrum for non-labeled (HGFL) and heavy isotope labeled peptide (IS) EDQTSPAPGLR peptide. (B) Calibration curve for isotope-labeled peptide. AUC is an area under curve. (C) HGFL/Cr levels in healthy controls and SCA patients without CKD. Twelve control samples were collected from subjects without SCA at Howard University, 19 samples were collected from SCA subjects without kidney disease CKD (Chicago cohort). Cr-creatinine. SCA- sickle cell anemia. Data are presented as individual data and mean.

A**B**

Supplemental Figure 3. No significant correlation is found between urinary albumin or hemoglobin and urinary HGFL. Twenty samples are collected from SCA subjects without kidney disease (Chicago cohort). (A) Pearson correlation of urinary albumin (ALB) and HGFL. (B) Pearson correlation of urinary hemoglobin (Hgb) and HGFL. Cr - urinary creatinine. HGFL levels are measured by single reaction monitoring mass-spectrometry. Albumin and hemoglobin levels are measured by ELISA. Data are presented as individual data and mean.

A**B**

Supplemental Figure 4. HGFL/Cr levels measured by ELISA are similar in healthy controls and SCA subjects without kidney disease. (A) Pearson correlation between HGFL/Cr levels measured by single reaction monitoring mass-spectrometry (SRM) and ELISA in 19 samples from SCA subjects (Chicago cohort). (B) HGFL/Cr levels in healthy controls (7 samples, Howard) and SCA subjects without kidney disease (19 SCA subjects from Chicago cohort and 25 subjects from Howard cohort). Cr – creatinine. Data are presented as individual data and mean.