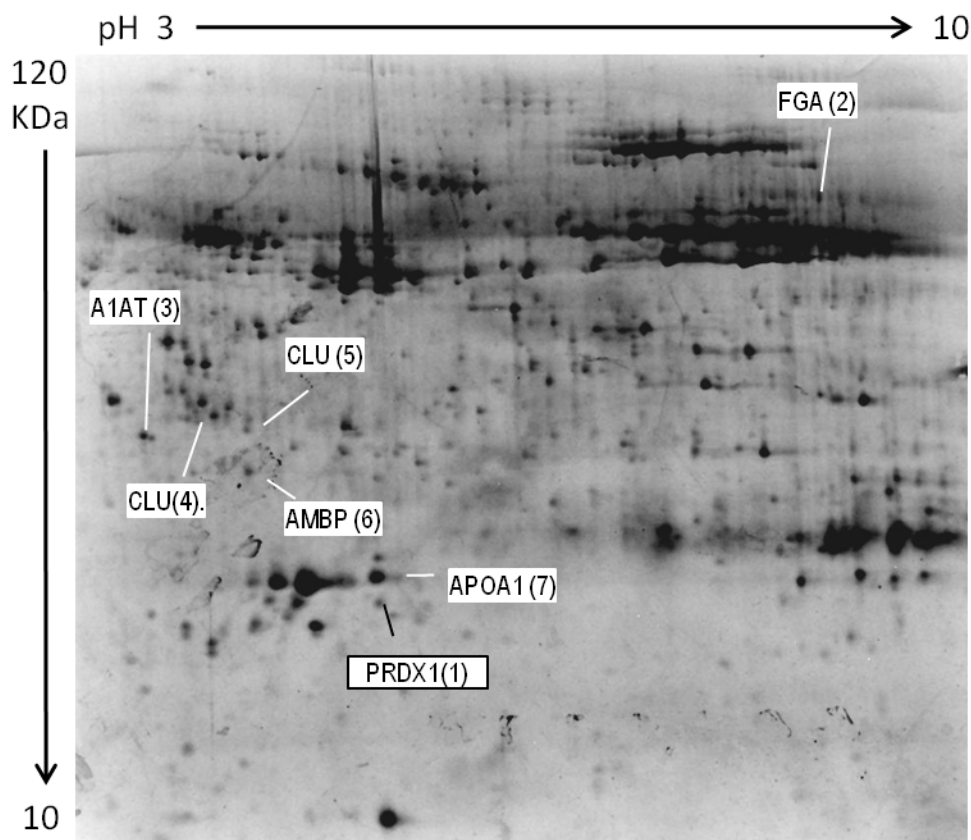


Supplemental Fig 1. Representative 2-D gel pH 3-10NL of conditioned media from HepG2 cells treated with either 1%, 4% or 20% ambient air. Proteins indicated are top scoring hits of spots identified following in gel digestion and LC-MS/MS identification of the spots. Proteins spots indicated are not significantly changing by ANOVA . Complete MS data are listed in supplemental Table 1.

Supplemental Table 1. LC-MS/MS identification of the protein spots from HepG2 conditioned media in supplemental figure 1.

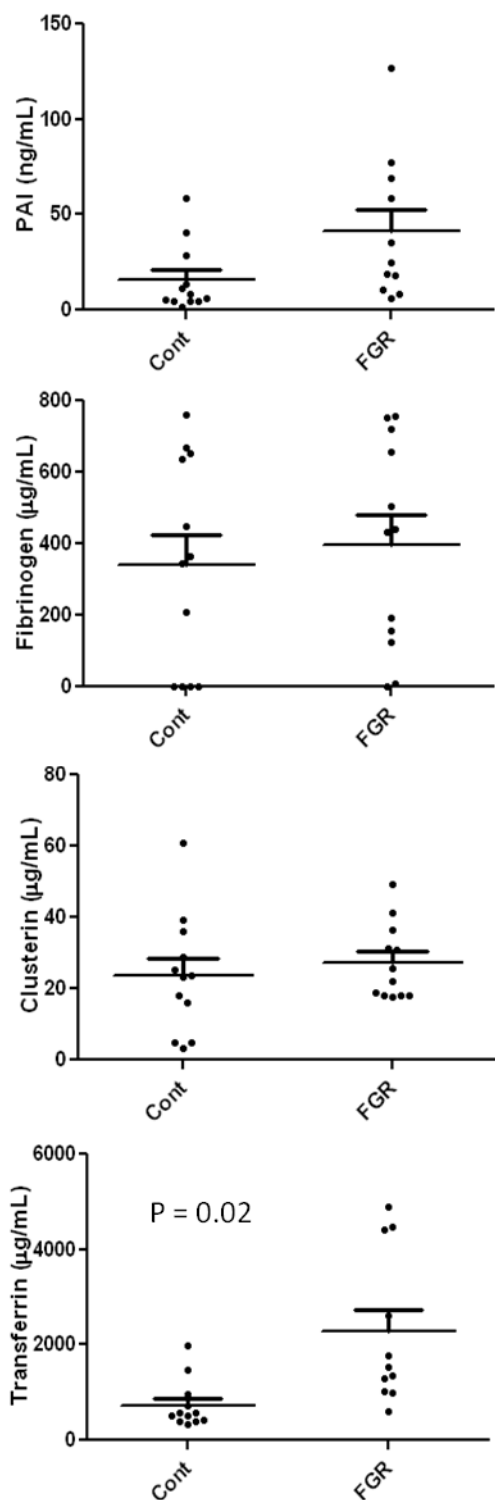
| Spot ID | Accession | Description | Mascot | Peptides |
|---------|-------------|---|--------|----------|
| 1 | IPI00553177 | Alpha-1-antitrypsin | 201 | 6 |
| | IPI00032220 | Angiotensinogen | 195 | 4 |
| | IPI00295542 | Nucleobindin-1 | 59 | 2 |
| 2 | IPI00022443 | Alpha-fetoprotein | 69 | 2 |
| | IPI00022434 | Putative uncharacterized protein albumin | 62 | 4 |
| 3 | IPI00022434 | Putative uncharacterized protein albumin | 125 | 8 |
| 4 | IPI00553177 | Alpha-1-antitrypsin | 427 | 17 |
| | IPI00032220 | Angiotensinogen | 123 | 4 |
| | IPI00031121 | Carboxypeptidase E precursor | 96 | 4 |
| | IPI00030702 | Isocitrate dehydrogenase [NAD] α , mitochondrial | 42 | 1 |
| | IPI00022431 | Alpha-2-HS-glycoprotein like | 40 | 2 |
| | IPI00216773 | Albumin | 38 | 1 |
| 5 | IPI00216773 | Albumin | 51 | 3 |
| 6 | IPI00216773 | Albumin | 69 | 2 |
| 7 | IPI00216773 | Albumin | 61 | 2 |
| 8 | IPI00216773 | Albumin | 94 | 4 |
| 9 | IPI00216773 | Albumin | 90 | 4 |
| | IPI00290460 | Eukaryotic translation initiation factor 3 subunit G | 73 | 1 |
| 10 | IPI00169383 | Phosphoglycerate kinase 1 | 247 | 10 |
| 11 | IPI00169383 | Phosphoglycerate kinase 1 | 64 | 2 |
| 12 | IPI00553177 | Alpha-1-antitrypsin | 144 | 6 |
| | IPI00022213 | Gastricsin | 58 | 1 |
| 13 | IPI00465439 | Fructose-bisphosphate aldolase A | 162 | 6 |
| | IPI00418262 | Fructose-bisphosphate aldolase C like | 77 | 3 |
| 14 | IPI00010896 | Chloride intracellular channel protein 1 | 382 | 7 |
| | IPI00022426 | Alpha-1-microglobulin/bikunin precursor | 108 | 3 |
| 15 | IPI00022426 | Alpha-1-microglobulin/bikunin precursor | 69 | 2 |
| 16 | IPI00386854 | Heterogeneous nuclear ribonucleoproteins A2/B1 | 77 | 1 |
| 17 | IPI00003815 | Rho GDP-dissociation inhibitor 1 | 109 | 4 |
| 18 | IPI00021841 | Apolipoprotein A-I | 256 | 9 |
| 19 | IPI00021841 | Apolipoprotein A-I | 149 | 10 |
| 20 | IPI00022432 | Transthyretin | 183 | 5 |
| 21 | IPI00419585 | Peptidyl-prolyl cis-trans isomerase A | 123 | 4 |
| 22 | IPI00022432 | Cofilin 1 (non-muscle) | 183 | 5 |



Supplemental Fig 2. A representative 2-D gel pH 3-10NL of fetal cord plasma after albumin and IgG depletion. Twelve FGR and twelve matching gestational age control fetal plasma samples (Fig 1 and Table 1) were separated by 2-DGE after albumin and IgG depletion. Densitometric software analysis compared changes by paired t-test ($P < 0.05$) between control and FGR groups. Proteins indicated are top scoring hits of significantly changing spots identified by LC-MS/MS. PRDX1 (black border) is increasing in spot density, while others are decreasing in FGR compared to controls. Complete MS and quantitative data are listed in Supplemental Table 2.

Supplemental Table 2. Densitometric fold change and LC-MS/MS identification of the protein spots significantly increasing or decreasing by paired t-test in supplemental figure 2. Proteins for which subsequent ELISA was performed on the fetal cord plasma are in bold.

| Spot ID | Accession | Description | Mascot | Peptides | Change | P |
|---------|-------------|--------------------------------------|------------|----------|--------------|--------------|
| 1 | IPI00027350 | Peroxiredoxin-2 | 102 | 2 | 1.93 | 0.026 |
| | IPI00022434 | Putative uncharacterized protein ALB | 62 | 4 | | |
| 2 | IPI00029717 | Fibrinogen alpha chain | 145 | 6 | -2.19 | 0.020 |
| | IPI00554676 | Hemoglobin subunit gamma-2 | 103 | 3 | | |
| 3 | IPI00553177 | Isoform 1 of Alpha-1-antitrypsin | 120 | 2 | -1.59 | 0.012 |
| 4 | IPI00291262 | Clusterin | 74 | 4 | -1.81 | 0.038 |
| 5 | IPI00291262 | Clusterin | 212 | 4 | -1.46 | 0.034 |
| 6 | IPI00022426 | Protein AMBP | 65 | 2 | -1.19 | 0.027 |
| 7 | IPI00021841 | Apolipoprotein A-I | 170 | 7 | -1.15 | 0.047 |



Supplemental Fig 3. Immunological based measurement from control and FGR cord plasma samples (Table 2 and Fig 5), analyzing levels of PAI-1, fibrinogen, clusterin and transferrin. Levels between FGR and control groups. Significance determined by t-test.