RESULTS
Hepatic Acute Phase Response is Zone Specific
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INTRODUCTION
Pneumonia is the leading cause of infectious death among children under the age of 5 worldwide (WHO). The hepatic acute phase response (APR) plays a key role in defending the body from infection such as pneumonia.

For healthy adults, the APR is characterized by an increase in the production of acute phase proteins (APPs), such as C-reactive protein (CRP) and lipopolysaccharide binding protein (Lbp).

The adult liver has been shown to exhibit metabolic zonation patterns that differ in cells surrounding the portal vein (PV) from those around the central vein (CV). However, the APR has never been demonstrated to have zone-specific characteristics in vivo.

Illuminating these characteristics of the APR will build a better understanding of the immunological role of the liver. This is a key step in learning how this process might differ for children.

We hypothesized that APPs would exhibit zone-specific activity in the mouse liver after endotoxemia.

METHODS
- Smg/kg Lipopolysaccharide (LPS) was administered intraperitoneal to B6 mice
- Hepatic APR gene mRNA were evaluated by qPCR
- Zone-specific (CV and PV) hepatocytes were isolated using digitonin
- CRP protein content were evaluated by Western Blot
- DAB IHC Staining was performed with C-reactive protein antibody
- Statistical analyses completed with GraphPad Prism

CONCLUSION
Hepatic APR was induced by our model of endotoxemia.

Crp and lbp genes showed increased expression in CV hepatocyte samples.

Saa1 was induced in both CV and PV zones

IHC revealed CRP around the CV in LPS-exposed adult liver tissue.

CRP content ↑ after 5h LPS exposure in male and female whole liver protein samples