Targeted Quantification of Sphingolipids for Detection of Gastrointestinal Inflammatory Disorders

**Background:**
Approximately one in nine births worldwide are preterm, which pose major challenges such as necrotizing enterocolitis (NEC). NEC is a necro-inflammatory intestinal injury that is one-third fatal, and survivors often have severe digestive morbidities and developmental disabilities. Children with NEC experience higher rates of functional impairment throughout childhood, and of sepsis associated with their short guts which results from emergency removal of the inflamed tissue. Most therapeutic approaches focus on treatment with antibiotics when the infection and inflammation is already ongoing.

**Technology Description:**
Researchers at Washington University have developed new sphingolipid biomarkers for the detection of dysregulated gut inflammation before clinical symptoms present. The sphingolipids are extracted from stool samples analyzed by mass spectrometry facility. The tandem mass-spectrometry based assay can be implemented in laboratory environments.

**Indications:**
Necrotizing Enterocolitis (NEC), Gastrointestinal Inflammatory Diseases

**Key Advantages:**
- Pre-event detection of gastrointestinal inflammatory issues leading to earlier treatment
- Higher chances of survival
- Less off-target usage of antibiotics, more focused diagnostic

**Patent/Patent Application:**
62/465,528

**Lead Inventor:**
Phillip Tarr, MD., Co-Leader, Pathobiology Research Unit, Department of Pediatrics, Washington University School of Medicine

<table>
<thead>
<tr>
<th>Licensing Contact</th>
<th>Application Space</th>
<th>WUSTL Case#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paul Hippenmeyer, Ph.D</td>
<td>Diagnostics, Gastroenterology &amp; Digestive Disease</td>
<td>016694</td>
</tr>
<tr>
<td><a href="mailto:hippenmeyerp@wustl.edu">hippenmeyerp@wustl.edu</a></td>
<td></td>
<td></td>
</tr>
<tr>
<td>314.747.0609</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>