Supplemental Figure S1: Cartoon of the suggested mechanism of the anti-inflammatory effect of ILA in B. infantis secretions on an intestinal epithelial cell

(1) Degradation of lumen protein leads to the release of tryptophan (Trp). Under the influence of the gut microbiota, Trp is converted to (2) indole-3-lactic acid (ILA) by the indole/AHR pathways. ILA acts on the aryl hydrocarbon receptor (AHR) found in fetal enterocytes (3) thereby affecting the innate immune response in a ligand-specific fashion suppressing a pathogen-mediated inflammatory cytokine IL-1β-induced IL-8 secretion (4). TLR4 is required for ILA anti-inflammation in immature enterocyte with the unknown mechanism (5).

AHR: aryl hydrocarbon receptor
ILA: indole-3-lactic acid
| Ingredients          | Amount         | Final Concentration |
|----------------------|----------------|---------------------|
| OptiMem media        | 1000 ml        |                     |
| Sodium Acetate       | 5g             | 5g/L = 60 mM        |
| L-Cysteine           | 0.5g           | 0.5g/L              |
| Album                | 1g             | 1g/L                |
| Yeast extract        | 5g             | 5g/L                |
| Sodium Selenite      | 60µl of 1mM    | 60 nM               |
| Vitamin A            | 5µl of 5µg/µl stock | 25 µg/L            |
| Holo transferin      | 60 µl of 5mg/ml stock | (0.3 µg/ml)       |
| Inulin               | 100mg          | 0.1mg/ml            |
| BPE                  | 200ul of 25mg/ml stock | 5 µg/ml           |
| MEMNEAA              | 10 ml          | 1x                  |
| Glutamite            | 10 ml          | 2 mM                |
| Hepes                | 10 ml          | 10 mM               |
| BHI                  | 8 ml of 0.5g/ml Stock (autocleaved) | 4g/L              |

**Supplemental Table S1. B. Infantis culture media.** The table shows the ingredients of the B.infantis culture media, which is a modification of the combination of the intestinal epithelial cell culture media and the B.infantis culture media. **Abbreviation:** MEMNEAA- MEM non-essential amino acids, BPE-Bovine pituitary extract, BHI- Brain and heart infusion broth.