

Figure S1. DGGE separation of 16S rRNA amplicons obtained from DNA isolated from bacterial cultures of fecal bacteria obtained from vegan (V1-V3) and omnivorous (O1-O3) volunteers. M – marker of separation distance.

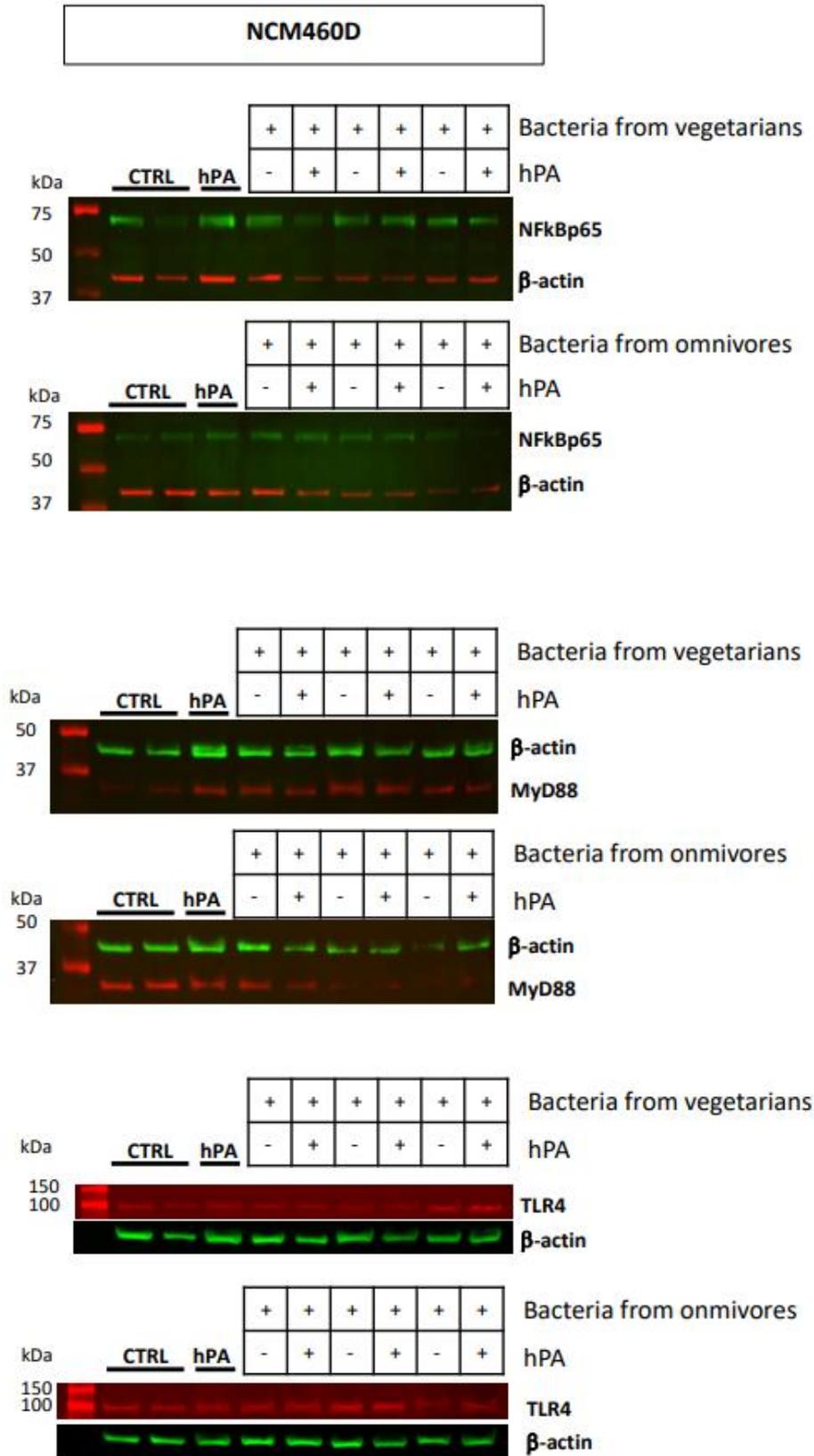


Figure S2. Exemplary immunoblots representing detection of indicated proteins in the whole cell extract from NCM460D cells.

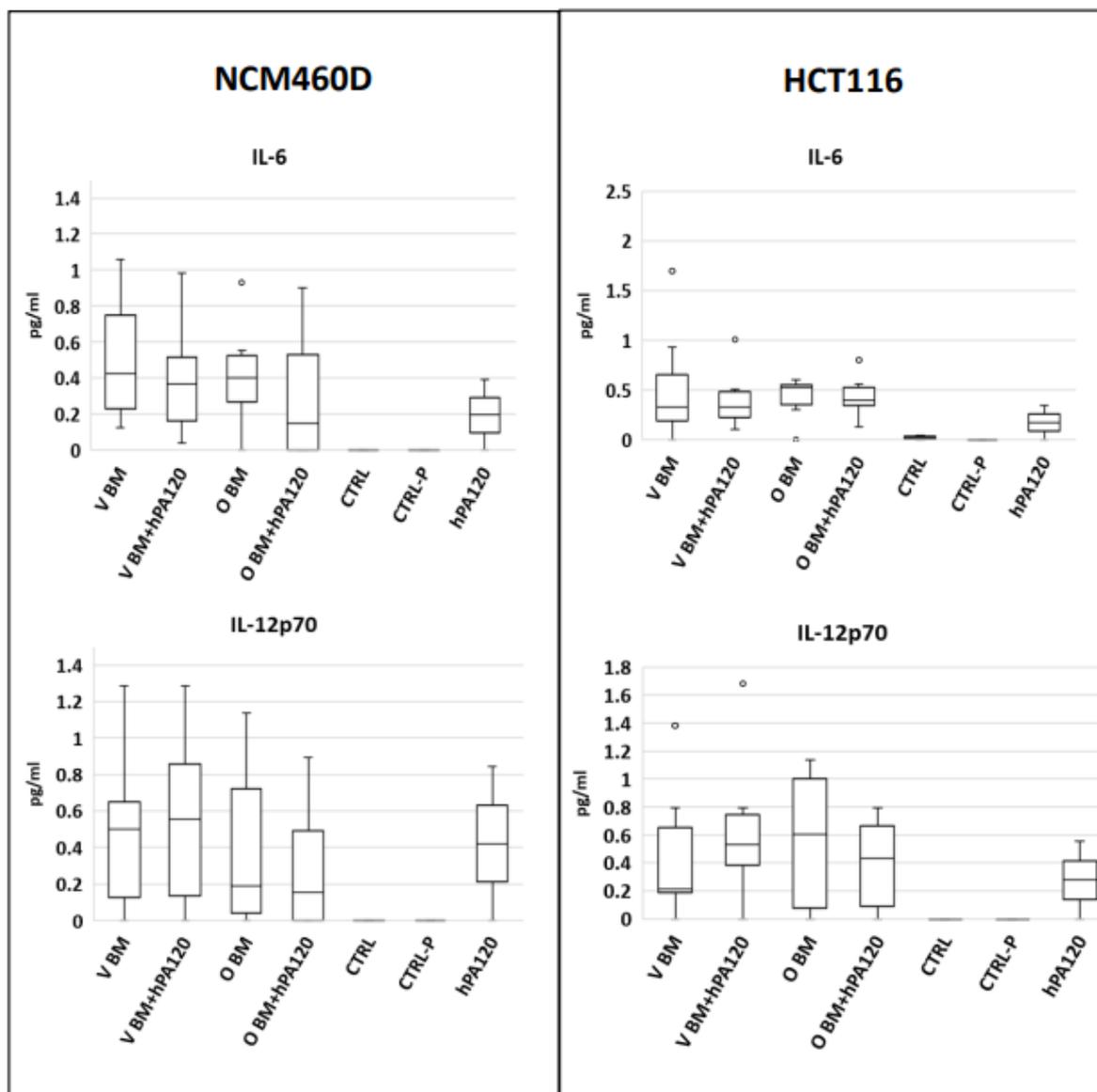


Figure S3. Secretion of IL-6 and IL-12p70 by healthy and cancer colonocytes (NCM460D and HCT116 cell lines, respectively) after 2-hour incubation with cultures of fecal bacteria alone (BM) or with bacterial cultures and phytate hydrolysate (BM+hPA120). V and O – fecal bacteria obtained from vegan and omnivorous volunteers, respectively. Cultures of fecal bacteria were carried out in modified Wilkins-Chalgren medium supplemented with 1 mM phytic acid and 0.5% mucin, incubated in anaerobic atmosphere, at 37°C for 40 h. Whiskers – non-outliers, box – 25%-75% non-outliers; horizontal line in the box – median; empty circles – outliers.

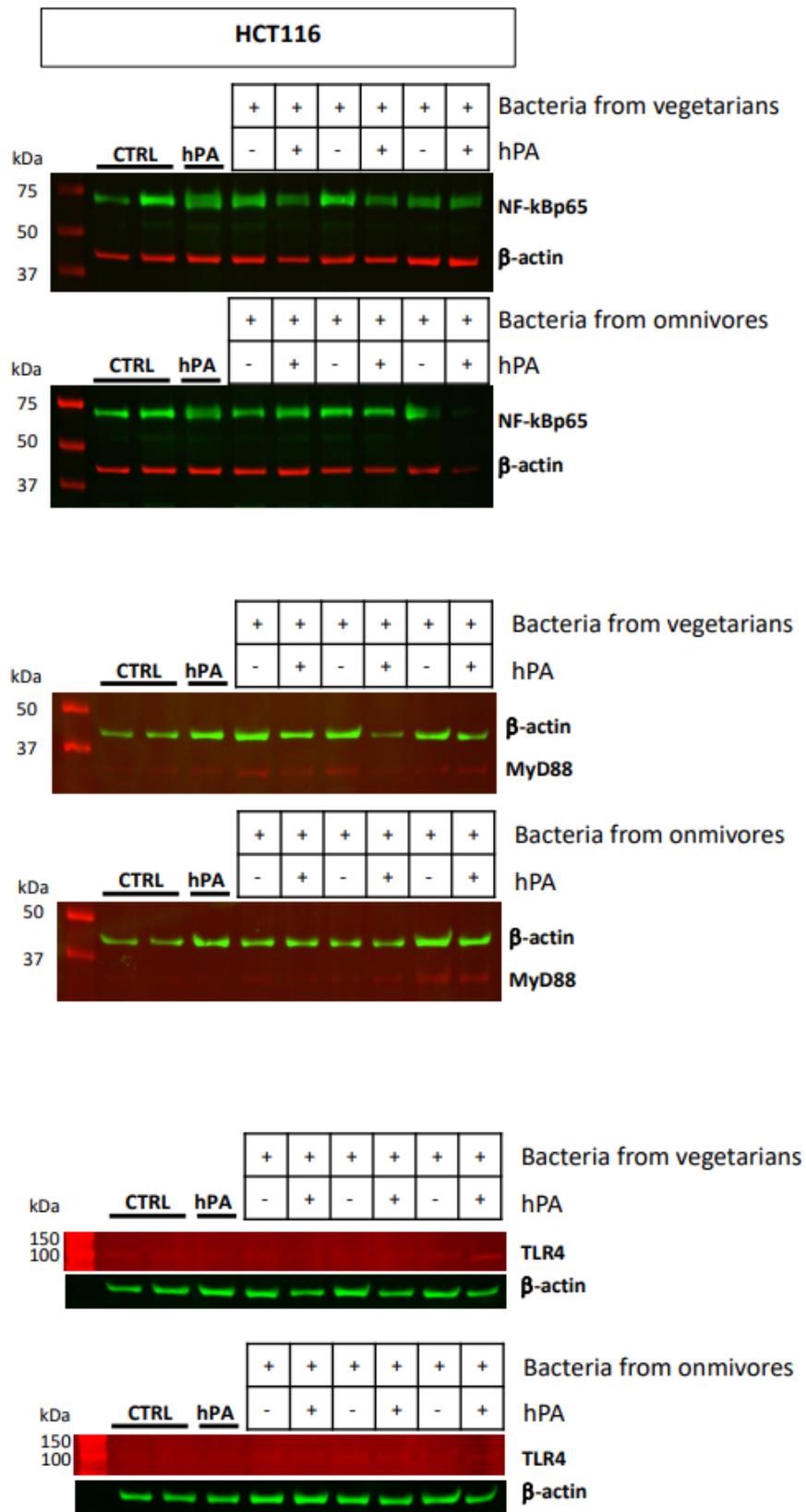


Figure S4. Exemplary immunoblots representing detection of indicated proteins in the whole cell extract from HCT116 cells.

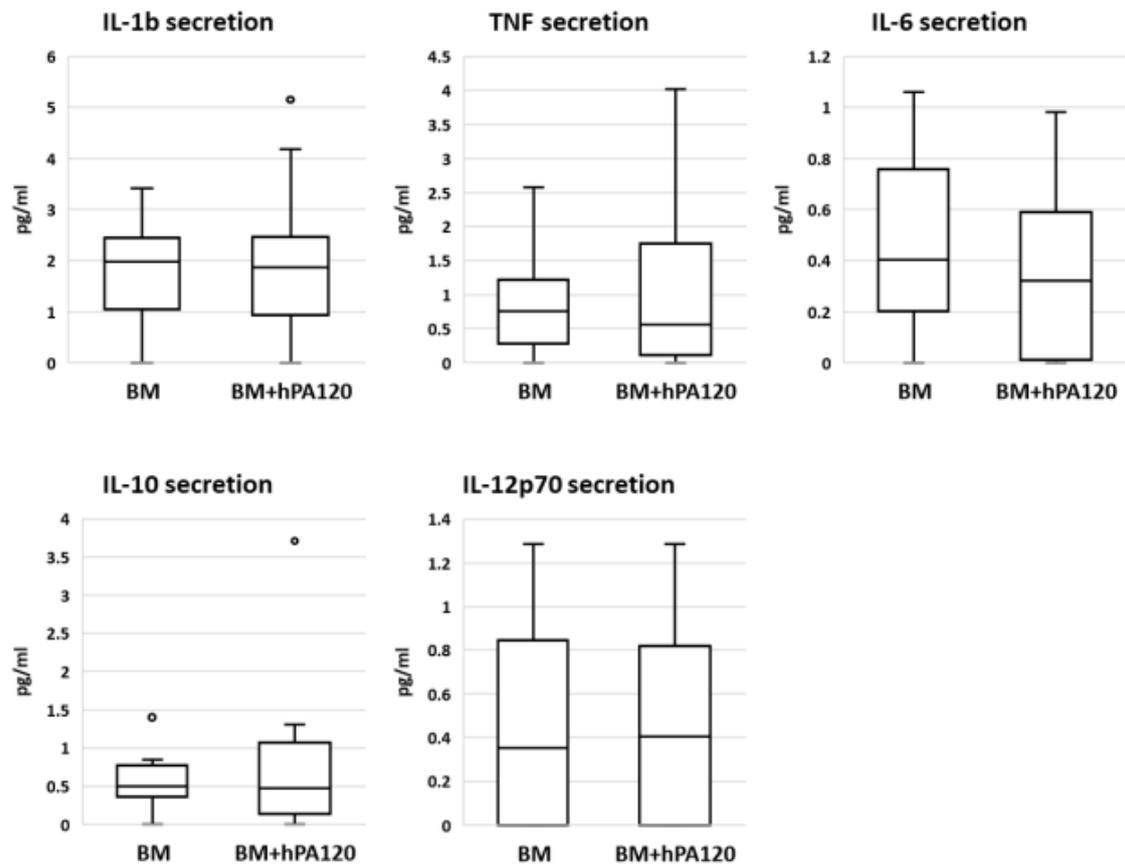


Figure S5. Concentrations of cytokines released to culture medium by NCM460D cells after 2 h incubation with BM (human gut bacteria grown in the presence of mucin and phytic acid) or BM and hydrolysate of phytic acid (BM+hPA120).

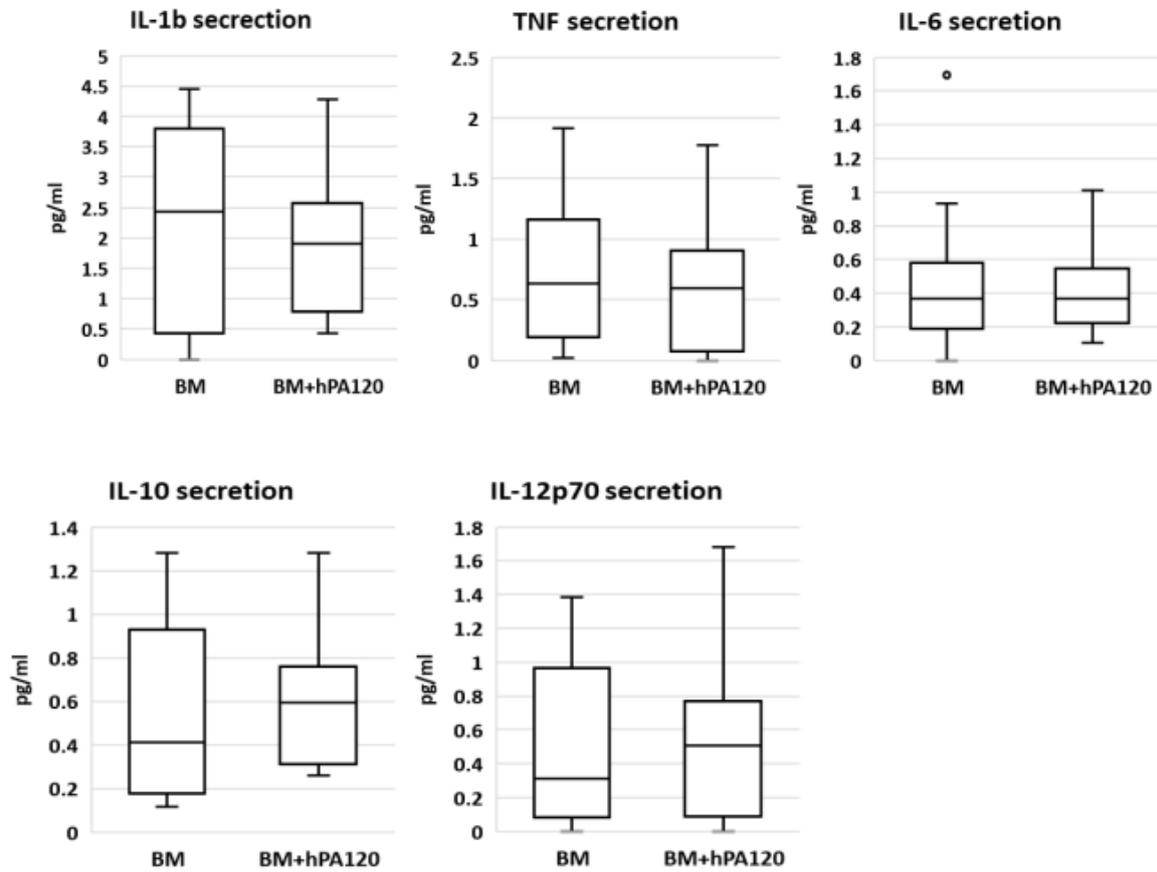


Figure S6. Concentrations of cytokines released to culture medium by HCT116 cells after 2 h incubation with BM (human gut bacteria grown in the presence of mucin and phytic acid) or BM and hydrolysate of phytic acid (BM+hPA120).

Supplementary Information

Table S1. List of the authentic standards used for HPLC-MS analysis of the phytate preparation.

| | Name of a standard | Producer, catalog number | Inositol phosphate |
|-----|---|--------------------------------------|--------------------|
| 1. | D- <i>myo</i> -Inositol 1,2,3,5,6-pentakisphosphate (decasodium salt) | Sigma, 76667-1MG | 1,2,3,5,6-IP5 |
| 2. | D- <i>myo</i> -Inositol-1,2,3,6-tetrakisphosphate (tetrapotassium salt) | Cayman Chemical, 10008450 | 1,2,3,6-IP4 |
| 3. | D- <i>myo</i> -Inositol-1,2,5,6-tetrakisphosphate (ammonium salt) | Santa Cruz Biotechnology, sc-214815 | 1,2,5,6-IP4 |
| 4. | D- <i>myo</i> -Inositol-1,2,6-triphosphate (sodium salt) | Santa Cruz Biotechnology, sc-223918 | 1,2,6-IP3 |
| 5. | D- <i>myo</i> -Inositol 1,4,5-trisphosphate (hexapotassium salt) | ENZO Life Sciences, ALX-307-009-M001 | 1,4,5-IP3 |
| 6. | D- <i>myo</i> -Inositol-1,5,6-triphosphate (sodium salt) | Santa Cruz Biotechnology, sc-205286 | 1,5,6-IP3 |
| 7. | D- <i>myo</i> -Inositol-1,2-diphosphate (sodium salt) | Santa Cruz Biotechnology, sc-223910 | 1,2-IP2 |
| 8. | D- <i>myo</i> -Inositol 1,4-bisphosphate (potassium salt) | Santa Cruz Biotechnology, sc-214818 | 1,4-IP2 |
| 9. | D- <i>myo</i> -Inositol-4,5-diphosphate (sodium salt) | Santa Cruz Biotechnology, sc-221514 | 4,5-IP2 |
| 10. | D- <i>myo</i> -Inositol-1-phosphate (sodium salt) | Santa Cruz Biotechnology, sc-223909 | 1-IP1 |
| 11. | <i>myo</i> -Inositol | Santa Cruz Biotechnology, 202714 | IP |

Table S2. Primers applied in the study.

| Name | Sequence (5' → 3') | Target |
|----------------------|--|---|
| ACTBf ACTBr | TGAAGTGTGACGTGGACATC ACTCGTCATACTCCTGCTTG | Beta-actin |
| MyD88-f MyD88-r | GCACATGGGCACATACAGAC TAGCTGTTCTGGGAGCTGT | Myeloid differentiation primary response 88 |
| NFκB-f NFκB-r | ACAAATGGGCTACACCGAAG TAGGGCTTTGGTTTACACGG | Nuclear factor, light chain / polypeptide, p105 |
| IL-8-f IL-8-r | ACATACTCCAAACCTTTCCACCC CAACCCTCTGCACCCAGTTTTTC | Interleukin 8 |
| TNF-R-f TNF-R-r | CACCAGGTGTGATTCAGGTG CCCCACTGTGCTTTGTACCT | Tumor necrosis factor receptor superfamily member 10b (TNFRSF10B) |
| TLR4-f TLR4-r | TGGACAGTTTCCCACATTGA TGCCATTGAAAGCAACTCTG | Toll-like receptor 4 |
| IL-1βR-f IL-1βR-r | CTG GCA CGT TTG TGA GAA GA GTTCTTCAAGCAGGCAAAG | IL-1β receptor type 1 |