Table 1 – costs of immune activity

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Response | Predictor | Estimate | SE | CI | p\_value |
| Log 2 avg C-peptide | Intercept | 9.532 | 0.708 | [8.14,10.92] | 0\* |
|  | Sex | -0.302 | 0.155 | [-0.61,0] | 0.059 |
|  | Age | 0.088 | 0.047 | [0,0.18] | 0.07 |
|  | Maternal Rank | -0.062 | 0.251 | [-0.55,0.43] | 0.806 |
|  | **log2 avg Neopterin** | **0.328** | 0.075 | [0.18,0.48] | 0\* |
| ∆ ELBM month | Intercept | 0.617 | 0.237 | [0.15,1.08] | 0.01\* |
|  | Age | 0.008 | 0.009 | [-0.01,0.03] | 0.372 |
|  | Sex | -0.023 | 0.031 | [-0.08,0.04] | 0.444 |
|  | Maternal Rank | 0.009 | 0.049 | [-0.09,0.1] | 0.846 |
|  | log2 avg Neopterin | -0.011 | 0.021 | [-0.05,0.03] | 0.587 |
|  | **log2 avg C-peptide** | **-0.04** | 0.015 | [-0.07,-0.01] | 0.01\* |
| ∆ ELBM sample | Intercept | 0.847 | 0.208 | [0.44,1.26] | 0\* |
|  | Age | 0.011 | 0.008 | [0,0.03] | 0.177 |
|  | Sex | -0.003 | 0.027 | [-0.06,0.05] | 0.899 |
|  | **log2 Neopterin** | **-0.108** | 0.024 | [-0.15,-0.06] | 0\* |
|  | **sample interval** | **-0.025** | 0.011 | [-0.05,0] | 0.027\* |
|  | **log2 Neo x sample interval** | **0.003** | 0.001 | [0,0.01] | 0.011\* |

Table 2 – constraints on immune activity

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Response | Predictor | Estimate | SE | CI | p\_value |
| Log 2 avg Neopterin | Intercept | 7.051 | 0.56 | [5.95,8.15] | 0\* |
|  | Sex | -0.056 | 0.097 | [-0.25,0.13] | 0.572 |
|  | Age | 0.006 | 0.032 | [-0.06,0.07] | 0.852 |
|  | Maternal Rank | 0.072 | 0.157 | [-0.24,0.38] | 0.648 |
|  | **ELBM** | **1.42** | 0.233 | [0.96,1.88] | 0\* |
|  | **log2 avg C-peptide** | **0.143** | 0.041 | [0.06,0.22] | 0.001\* |

Supp table X

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Response | Predictor | Estimate | SE | CI | p\_value |
| Time feeding | Intercept | 0.279 | 0.061 | [0.16,0.4] | 0\* |
|  | Sex | -0.006 | 0.009 | [-0.02,0.01] | 0.545 |
|  | Age | 0 | 0.003 | [-0.01,0.01] | 0.982 |
|  | log2 Neopterin | -0.007 | 0.005 | [-0.02,0] | 0.197 |
|  | log2 C-peptide | 0.006 | 0.004 | [0,0.01] | 0.114 |
| Time resting | Intercept | 0.28 | 0.055 | [0.17,0.39] | 0\* |
|  | Sex | 0.026 | 0.011 | [0,0.05] | 0.025\* |
|  | Age | 0.009 | 0.003 | [0,0.02] | 0.01\* |
|  | **log2 Neopterin** | **0.014** | 0.005 | [0,0.02] | 0.003\* |
|  | **log2 C-peptide** | **-0.007** | 0.004 | [-0.01,0] | 0.04\* |
| Time moving | Intercept | 0.215 | 0.027 | [0.16,0.27] | 0\* |
|  | Sex | -0.003 | 0.005 | [-0.01,0.01] | 0.536 |
|  | Age | -0.007 | 0.002 | [-0.01,0] | 0\* |
|  | log2 Neopterin | -0.001 | 0.002 | [-0.01,0] | 0.77 |
|  | log2 C-peptide | 0.001 | 0.002 | [0,0] | 0.712 |