**Gastrointestinal intraluminal pH of non-fasted mice of various strains and vendors including germ-free and streptomycin-treated mice**

**Supplementary material**

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**Table 1:**

**ANOVA model comparisons to investigate the effect of sex, vendor, and strain together with their interaction. The effect of sex is included.**

*To examine the impact of vendor, strain, and sex on the pH levels within the seven sections of the mouse GIT, linear models were constructed and compared using ANOVA testing. For each GIT section, it was assessed whether the combination of vendor and strain would explain pH variations better than vendor or strain alone. Furthermore, it was investigated if sex had an impact on pH. Three sets of comparisons were made.* ***Comparison 1 (Vendor-strain-interaction vs. vendor):*** *This compares a model with vendor and sex (Simple model) against a model with the interaction between vendor and strain, along with sex (Full model).* ***Comparison 2 (Vendor-strain-interaction vs. strain****)****:*** *This compares a model with strain and sex (Simple model) against a model with the interaction between vendor and strain, along with sex (Full model).*

***Comparison 3 (Strain-vendor-interaction vs. sex)*** *investigates the interaction effect between strain and vendor (Simple model) versus the interaction effect between strain and vendor with an additive effect of sex (Full model). Significant values indicate that the full model explains the data better than the simple model. The results are considered significant at p < 0.05.*

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **ANOVA** | | | | | | | |
| **Comparison** | **Stomach** | **Duodenum** | **Jejunum** | **Ileum** | **Cecum** | **Proximal colon** | **Distal colon** |
| Comparison 1 | 0.2444 | 0.004381**\*\*** | 0.07028 | 0.07399 | 2.28e-06**\*\*\*** | 0.06285 | 0.1892 |
| Comparison 2 | 0.3579 | 0.01182**\*** | 0.5318 | 0.2824 | 0.03669**\*** | 0.2223 | 0.5608 |
| Comparison 3 | 0.7857 | 0.5164 | 0.7323 | 0.5083 | 0.06783 | 0.06578 | 0.5405 |

**Table 2:**

*Mean and standard deviation of measured pH values of vendor, strain, and vendor and strain in combination. For each gut section, pairwise T-tests were conducted. Letters that differ within a GIT section indicate that the measured values are significantly different at a Holm’s adjusted significant level of p<0.05*

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Mean and standard deviation within vendor, strain, or vendor and strain combination** | | | | | | | | |
| **Vendor** | **Strain** | **Stomach** | **Duodenum** | **Jejunum** | **Ileum** | **Cecum** | **Proximal colon** | **Distal colon** |
|  |  |  |  |  |  |  |  |  |
| **Janvier** |  | 3.9 ± 0.6 NS | 6.6 ± 0.1 NS | 7.1 ± 0.1 NS | 8.0 ± 0.1 NS | 6.7 ± 0.3 NS | 6.8 ± 0.2 NS | 6.9 ± 0.2 NS |
| **Taconic** |  | 4.1 ± 0.8 NS | 6.6 ± 0.2 NS | 7.1 ± 0.2 NS | 8.0 ± 0.2 NS | 6.9 ± 0.4 NS | 6.9 ± 0.4 NS | 7.0 ± 0.2 NS |
|  |  |  |  |  |  |  |  |  |
|  | **BALB/c** | 4.2 ± 0.9 NS | 6.6 ± 0.1 NS | 7.0 ± 0.2 **a** | 8.0 ± 0.2 NS | 6.6 ± 0.3 **a** | 6.8 ± 0.2 NS | 7.0 ± 0.2 NS |
|  | **C57BL/6** | 3.8 ± 0.5 NS | 6.6 ± 0.2 NS | 7.2 ± 0.1 **b** | 8.0 ± 0.2 NS | 7.2 ± 0.3 **b** | 7.0 ± 0.2 NS | 7.0 ± 0.2 NS |
|  | **NMRI** | 4.0 ± 0.6 NS | 6.5 ± 0.1 NS | 7.1 ± 0.1 NS | 8.0 ± 0.2 NS | 6.7 ± 0.2 **a** | 6.8 ± 0.3 NS | 6.8 ± 0.3 NS |
|  |  |  |  |  |  |  |  |  |
| **Janvier** | **BALB/c** | 3.9 ± 0.9 NS | 6.6 ± 0.1 NS | 7.1 ± 0.1 NS | 7.9 ± 0.1 NS | 6.6 ± 0.2 **a** | 6.8 ± 0.2 NS | 6.9 ± 0.2 NS |
| **Janvier** | **C57BL/6** | 3.9 ± 0.2 NS | 6.5 ± 0.1 NS | 7.1 ± 0.1 NS | 8.0 ± 0.1 NS | 7.0 ± 0.3 NS | 6.8 ± 0.1 NS | 6.9 ± 0.2 NS |
| **Janvier** | **NMRI** | 3.9 ± 0.6 NS | 6.6 ± 0.1 NS | 7.1 ± 0.1 NS | 7.9 ± 0.1 NS | 6.6 ± 0.2 **a** | 6.8 ± 0.3 NS | 6.8 ± 0.3 NS |
| **Taconic** | **BALB/c** | 4.4 ± 0.9 NS | 6.6 ± 0.1 NS | 7.0 ± 0.2 NS | 7.9 ± 0.2 NS | 6.7 ± 0.4 **a** | 6.8 ± 0.3 NS | 7.0 ± 0.2 NS |
| **Taconic** | **C57BL/6** | 3.6 ± 0.6 NS | 6.7 ± 0.1 **a** | 7.2 ± 0.1 NS | 8.0 ± 0.2 NS | 7.4 ± 0.2 **b** | 7.1 ± 0.2 NS | 7.0 ± 0.1 NS |
| **Taconic** | **NMRI** | 4.2 ± 0.7 NS | 6.4 ± 0.1 **b** | 7.1 ± 0.1 NS | 8.1 ± 0.2 NS | 6.8 ± 0.3 **a** | 6.7 ± 0.4 NS | 6.9 ± 0.2 NS |
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