**Supplementary Table S1:** Map isolates used for the development and validation of the GC-MS analysis and eNose including the PCR and culture results

| Isolate | Host | Year | Strain Type | Map Specific qPCR Result | Culture Result |
|---|---|---|---|---|---|
| 51[1,2] | Cattle | 2022 | C | Positive | Positive |
| 49[1,2] | Cattle | 2022 | C | Positive | Positive |
| 34[1,2] | Cattle | 2022 | C | Positive | Positive |
| 22[1,2] | Cattle | 2022 | C | Positive | Positive |
| 18[1,2] | Cattle | 2022 | C | Positive | Positive |
| 43[1,2] | Cattle | 2022 | C | Positive | Positive |
| 10[1,2] | Cattle | 2022 | C | Positive | Positive |
| 1[1,2] | Cattle | 2022 | C | Positive | Positive |
| CNeg[1,2] | Cattle | 2024 | C | Negative | Negative |
| S25[1,2,4] | Sheep | 2023 | S | Positive | Positive |
| S26[1,2,4] | Sheep | 2023 | S | Positive | Positive |
| SNeg[1,2] | Sheep | 2024 | S | Negative | Negative |
| 3322-1[1,3,5] | Sheep | 2023 | S | Negative | Negative |
| 3322-2[1,3,5] | Sheep | 2023 | S | Negative | Negative |
| 3322-3[1,3,5] | Sheep | 2023 | S | Negative | Negative |
| 3322-4[1,3,5] | Sheep | 2023 | S | Negative | Negative |
| 3322-5[1,3,5] | Sheep | 2023 | S | Negative | Negative |
| 3322-6[1,3,5] | Sheep | 2023 | S | Negative | Negative |
| 3322-7[1,3,5] | Sheep | 2023 | S | Negative | Negative |
| 3322-8[1,3,5] | Sheep | 2023 | S | Negative | Negative |
| 3322-9[1,3.5] | Sheep | 2023 | S | Negative | Negative |
| 3322-10[1,3,5] | Sheep | 2023 | S | Negative | Negative |
| 232-3[1,4] | Sheep | 2023 | S | Positive | Positive |
| 2534-20[1,4] | Sheep | 2023 | S | Positive | Positive |
| 3833[1] | Sheep | 2023 | S | Negative | Negative |
| 760-1[3,4,5] | Cattle | 2024 | C | Positive | Positive |
| 760-2[3,4,5] | Cattle | 2024 | C | Positive | Positive |
| 760-3[3,4,5] | Cattle | 2024 | C | Positive | Positive |
| 760-4[3,4,5] | Cattle | 2024 | C | Positive | Positive |
| 760-5[3,4,5] | Cattle | 2024 | C | Positive | Positive |
| 760-7[3,4,5] | Cattle | 2024 | C | Positive | Positive |
| 760-10[3,4,5] | Cattle | 2024 | C | Positive | Positive |
| 760-11[3,4,5] | Cattle | 2024 | C | Positive | Positive |
| 760-13[3,4,5] | Cattle | 2024 | C | Positive | Positive |
| 760-16[3,4,5] | Cattle | 2024 | C | Positive | Positive |
| 487-1[3,5] | Cattle | 2024 | C | Negative | Negative |
| 487-2[3,5] | Cattle | 2024 | C | Negative | Negative |
| 487-3[3,5] | Cattle | 2024 | C | Negative | Negative |
| 487-4[3,5] | Cattle | 2024 | C | Negative | Negative |
| 487-5[3,5] | Cattle | 2024 | C | Negative | Negative |
| 487-6[3,5] | Cattle | 2024 | C | Negative | Negative |
| 487-7[3,5] | Cattle | 2024 | C | Negative | Negative |

| Isolate | Host | Year | Strain Type | Map Specific qPCR Result | Culture Result |
|---|---|---|---|---|---|
| 487-8[3] | Cattle | 2024 | C | Negative | Negative |
| 487-9[3,5] | Cattle | 2024 | C | Negative | Negative |
| 487-10[3,5] | Cattle | 2024 | C | Negative | Negative |
| SA1[3,5] | Sheep | 2024 | S | Positive | Positive |
| SA2[3,5] | Sheep | 2024 | S | Positive | Positive |
| SA3[3,5] | Sheep | 2024 | S | Positive | Positive |
| SA4[3,5] | Sheep | 2024 | S | Positive | Positive |
| SA5[3,5] | Sheep | 2024 | S | Positive | Positive |
| SA6[3,5] | Sheep | 2024 | S | Positive | Positive |
| SA7[3,5] | Sheep | 2024 | S | Positive | Positive |
| SA8[3,5] | Sheep | 2024 | S | Positive | Positive |
| SA9[3,5] | Sheep | 2024 | S | Positive | Positive |
| SA10[3,5] | Sheep | 2024 | S | Positive | Positive |
| SA11[5] | Sheep | 2024 | S | Positive | Positive |
| SA12[5] | Sheep | 2024 | S | Positive | Positive |
| SA13[5] | Sheep | 2024 | S | Positive | Positive |
| SA14[5] | Sheep | 2024 | S | Positive | Positive |
| SA15[5] | Sheep | 2024 | S | Positive | Positive |
| SA16[5] | Sheep | 2024 | S | Positive | Positive |
| SA17[5] | Sheep | 2024 | S | Positive | Positive |
| SA18[5] | Sheep | 2024 | S | Positive | Positive |
| 760-8[4,5] | Cattle | 2024 | C | Positive | Positive |
| 760-9[4,5] | Cattle | 2024 | C | Positive | Positive |
| 760-13[4,5] | Cattle | 2024 | C | Positive | Positive |
| 760-17[4,5] | Cattle | 2024 | C | Positive | Positive |
| 760-18[4,5] | Cattle | 2024 | C | Positive | Positive |
| 760-19[4,5] | Cattle | 2024 | C | Positive | Positive |
| 760-20[4,5] | Cattle | 2024 | C | Positive | Positive |
| 760-21[4,5] | Cattle | 2024 | C | Positive | Positive |
| 760-22[4,5] | Cattle | 2024 | C | Positive | Positive |
| 760-23[4,5] | Cattle | 2024 | C | Positive | Positive |
| 760-25[4,5] | Cattle | 2024 | C | Positive | Positive |
| 760-26[4,5] | Cattle | 2024 | C | Positive | Positive |
| 760-27[4] | Cattle | 2024 | C | Positive | Positive |
| 760-29[4] | Cattle | 2024 | C | Positive | Positive |
| 760-30[4] | Cattle | 2024 | C | Positive | Positive |
| 760-31[4] | Cattle | 2024 | C | Positive | Positive |
| 760-32[4] | Cattle | 2024 | C | Positive | Positive |
| 760-33[4] | Cattle | 2024 | C | Positive | Positive |
| 1486-1[4,5] | Cattle | 2024 | C | Negative | Negative |
| 1486-2[4,5] | Cattle | 2024 | C | Negative | Negative |
| 1486-3[4,5] | Cattle | 2024 | C | Negative | Negative |
| 1486-4[4,5] | Cattle | 2024 | C | Negative | Negative |
| 1486-5[4,5] | Cattle | 2024 | C | Negative | Negative |

| Isolate | Host | Year | Strain Type | Map Specific qPCR Result | Culture Result |
|---|---|---|---|---|---|
| 1486-6[4,5] | Cattle | 2024 | C | Negative | Negative |
| 1486-7[4,5] | Cattle | 2024 | C | Negative | Negative |
| 1486-9[4,5] | Cattle | 2024 | C | Negative | Negative |
| 1486-10[4,5] | Cattle | 2024 | C | Negative | Negative |
| 1486-11[4,5] | Cattle | 2024 | C | Negative | Negative |
| 1486-12[4,5] | Cattle | 2024 | C | Negative | Negative |
| 1486-13[4,5] | Cattle | 2024 | C | Negative | Negative |
| 1486-14[4,5] | Cattle | 2024 | C | Negative | Negative |
| 1486-15[4,5] | Cattle | 2024 | C | Negative | Negative |
| 1486-16[4,5] | Cattle | 2024 | C | Negative | Negative |
| 1486-17[4,5] | Cattle | 2024 | C | Negative | Negative |
| 1486-18[4,5] | Cattle | 2024 | C | Negative | Negative |
| 1486-19[4,5] | Cattle | 2024 | C | Negative | Negative |
| 1486-20[4,5] | Cattle | 2024 | C | Negative | Negative |
| 1486-21[4,5] | Cattle | 2024 | C | Negative | Negative |
| 1486-22[4,5] | Cattle | 2024 | C | Negative | Negative |
| 1486-23[4,5] | Cattle | 2024 | C | Negative | Negative |
| 1486-24[4] | Cattle | 2024 | C | Negative | Negative |
| 1486-25[4] | Cattle | 2024 | C | Negative | Negative |
| 1486-26[4] | Cattle | 2024 | C | Negative | Negative |
| 1486-27[4] | Cattle | 2024 | C | Negative | Negative |
| 1486-28[4] | Cattle | 2024 | C | Negative | Negative |
| 1486-29[4] | Cattle | 2024 | C | Negative | Negative |
| 1486-30[4] | Cattle | 2024 | C | Negative | Negative |
| 1486-31[4] | Cattle | 2024 | C | Negative | Negative |
| 1486-32[4] | Cattle | 2024 | C | Negative | Negative |
| 1486-33[4] | Cattle | 2024 | C | Negative | Negative |
| 1486-34[4] | Cattle | 2024 | C | Negative | Negative |
| 1486-35[4] | Cattle | 2024 | C | Negative | Negative |
| 1486-36[4] | Cattle | 2024 | C | Negative | Negative |
| 1486-37[4] | Cattle | 2024 | C | Negative | Negative |
| 1486-38[4] | Cattle | 2024 | C | Negative | Negative |
| 1486-39[4] | Cattle | 2024 | C | Negative | Negative |
| 1486-40[4] | Cattle | 2024 | C | Negative | Negative |
| 1486-41[4] | Cattle | 2024 | C | Negative | Negative |
| 1486-42[4] | Cattle | 2024 | C | Negative | Negative |
| 1486-43[4] | Cattle | 2024 | C | Negative | Negative |
| 1486-44[4] | Cattle | 2024 | C | Negative | Negative |
| 1486-45[4] | Cattle | 2024 | C | Negative | Negative |
| 1486-46[4] | Cattle | 2024 | C | Negative | Negative |
| 1486-47[4] | Cattle | 2024 | C | Negative | Negative |
| 1486-48[4] | Cattle | 2024 | C | Negative | Negative |
| 1486-49[4] | Cattle | 2024 | C | Negative | Negative |
| 3322-11[4,5] | Sheep | 2023 | S | Negative | Negative |

| Isolate | Host | Year | Strain Type | Map Specific qPCR Result | Culture Result |
|---|---|---|---|---|---|
| 3322-12[4,5] | Sheep | 2023 | S | Negative | Negative |
| 3322-13[4,5] | Sheep | 2023 | S | Negative | Negative |
| 3322-14[4,5] | Sheep | 2023 | S | Negative | Negative |
| 3322-15[4,5] | Sheep | 2023 | S | Negative | Negative |
| 3322-16[4,5] | Sheep | 2023 | S | Negative | Negative |
| 3322-17[4,5] | Sheep | 2023 | S | Negative | Negative |
| 3322-18[4,5] | Sheep | 2023 | S | Negative | Negative |
| 3322-19[4,5] | Sheep | 2023 | S | Negative | Negative |
| 3322-20[4,5] | Sheep | 2023 | S | Negative | Negative |
| 3322-21[4,5] | Sheep | 2023 | S | Negative | Negative |
| 3322-22[4,5] | Sheep | 2023 | S | Negative | Negative |
| 3322-23[4,5] | Sheep | 2023 | S | Negative | Negative |
| 3322-24[4] | Sheep | 2023 | S | Negative | Negative |
| 3322-25[4] | Sheep | 2023 | S | Negative | Negative |
| 3322-26[4] | Sheep | 2023 | S | Negative | Negative |
| 3322-27[4] | Sheep | 2023 | S | Negative | Negative |
| 3322-28[4] | Sheep | 2023 | S | Negative | Negative |
| 3322-29[4] | Sheep | 2023 | S | Negative | Negative |
| 3322-30[4] | Sheep | 2023 | S | Negative | Negative |
| 3322-31[4] | Sheep | 2023 | S | Negative | Negative |
| 3322-32[4] | Sheep | 2023 | S | Negative | Negative |
| 3322-33[4] | Sheep | 2023 | S | Negative | Negative |
| 3322-34[4] | Sheep | 2023 | S | Negative | Negative |
| 3322-35[4] | Sheep | 2023 | S | Negative | Negative |
| 3322-36[4] | Sheep | 2023 | S | Negative | Negative |
| 3322-37[4] | Sheep | 2023 | S | Negative | Negative |
| 3322-38[4] | Sheep | 2023 | S | Negative | Negative |
| 3322-39[4] | Sheep | 2023 | S | Negative | Negative |
| 3322-40[4] | Sheep | 2023 | S | Negative | Negative |

[1]Isolates used for GC-MS method development on direct faeces,[2]Isolates used for GC-MS method development on cultures, [3]Isolates used for training of the Cyranose® 320 eNose®, [4]Isolates used for validation of the GC-MS method [5]Isolates used for the validation of the Cyranose® 320 eNose®

**Supplementary Table S2:** IS900 PCR results for cultures at each time point, W2, W4, W6, W8, W10, W12

| Isolate | Strain Type | Week 2 | Week 4 | Week 6 | Week 8 | Week 10 | Week 12 |
|---|---|---|---|---|---|---|---|
| S25 | S | - | - | - | - | - | + |
| S26 | S | - | - | - | - | - | + |
| SNeg | S | - | - | - | - | - | + |
| CNeg | C | - | - | - | - | - | + |
| 51 | C | - | - | - | - | - | + |
| 49 | C | - | - | - | + | + | + |
| 34 | C | - | - | - | - | - | + |
| 22 | C | - | - | - | - | - | + |
| 18 | C | - | - | - | + | + | + |
| 43 | C | - | - | - | - | + | + |
| 10 | C | - | - | - | - | - | + |
| 1 | C | - | - | - | - | - | + |