

TABLE S1. Number of classified reads per sample (in bold). Percentage of assigned reads to respective taxonomic branches within *Bacteria* of 16S rRNA gene fragments amplified from the DNA of the bacterial communities in traditional Oscypek during cheese preparation

| Taxon              | III (curd)   | III (fresh)  | III (smoked) | Total        |
|--------------------|--------------|--------------|--------------|--------------|
| Bacteria           | <b>10572</b> | <b>25692</b> | <b>21185</b> | <b>57449</b> |
| Actinobacteria     | 1.334%       | 1.203%       | 0.552%       | 0.987%       |
| Actinobacteria     | 1.334%       | 1.203%       | 0.552%       | 0.987%       |
| Actinomycetales    | 0.104%       | 0.160%       | 0.028%       | 0.101%       |
| Micrococcaceae     | 0.009%       | 0.012%       | 0.000%       | 0.007%       |
| Kocuria            | 0.009%       | 0.004%       | 0.000%       | 0.003%       |
| unclassified       | 0.000%       | 0.008%       | 0.000%       | 0.003%       |
| Sanguibacteraceae  | 0.000%       | 0.012%       | 0.009%       | 0.009%       |
| Sanguibacter       | 0.000%       | 0.012%       | 0.009%       | 0.009%       |
| unclassified       | 0.095%       | 0.136%       | 0.019%       | 0.085%       |
| unclassified       | 0.095%       | 0.136%       | 0.019%       | 0.085%       |
| Bifidobacteriales  | 1.012%       | 0.813%       | 0.434%       | 0.710%       |
| Bifidobacteriaceae | 1.012%       | 0.813%       | 0.434%       | 0.710%       |
| Bifidobacterium    | 0.095%       | 0.023%       | 0.000%       | 0.028%       |
| unclassified       | 0.918%       | 0.790%       | 0.434%       | 0.682%       |
| unclassified       | 0.218%       | 0.230%       | 0.090%       | 0.176%       |
| unclassified       | 0.218%       | 0.230%       | 0.090%       | 0.176%       |
| unclassified       | 0.218%       | 0.230%       | 0.090%       | 0.176%       |
| Bacteroidetes      | 0.009%       | 0.039%       | 0.019%       | 0.026%       |
| Flavobacteria      | 0.009%       | 0.039%       | 0.019%       | 0.026%       |
| Flavobacteriales   | 0.009%       | 0.039%       | 0.019%       | 0.026%       |
| Flavobacteriaceae  | 0.009%       | 0.039%       | 0.019%       | 0.026%       |
| Chryseobacterium   | 0.000%       | 0.004%       | 0.000%       | 0.002%       |
| unclassified       | 0.009%       | 0.035%       | 0.019%       | 0.024%       |
| Firmicutes         | 97.966%      | 97.879%      | 99.160%      | 98.367%      |
| Bacilli            | 97.787%      | 97.696%      | 98.815%      | 98.125%      |
| Bacillales         | 0.019%       | 0.012%       | 0.000%       | 0.009%       |
| Bacillaceae        | 0.019%       | 0.004%       | 0.000%       | 0.005%       |
| Exiguobacterium    | 0.019%       | 0.004%       | 0.000%       | 0.005%       |
| Staphylococcaceae  | 0.000%       | 0.004%       | 0.000%       | 0.002%       |
| Staphylococcus     | 0.000%       | 0.004%       | 0.000%       | 0.002%       |
| unclassified       | 0.000%       | 0.004%       | 0.000%       | 0.002%       |
| unclassified       | 0.000%       | 0.004%       | 0.000%       | 0.002%       |

| Taxon              | III (curd) | III (fresh) | III (smoked) | Total   |
|--------------------|------------|-------------|--------------|---------|
| Lactobacillales    | 96.699%    | 96.738%     | 97.404%      | 96.976% |
| Carnobacteriaceae  | 0.000%     | 0.012%      | 0.000%       | 0.005%  |
| unclassified       | 0.000%     | 0.012%      | 0.000%       | 0.005%  |
| Enterococcaceae    | 0.227%     | 0.113%      | 0.042%       | 0.108%  |
| Enterococcus       | 0.095%     | 0.004%      | 0.000%       | 0.019%  |
| Tetragenococcus    | 0.000%     | 0.054%      | 0.000%       | 0.024%  |
| unclassified       | 0.132%     | 0.054%      | 0.042%       | 0.064%  |
| Lactobacillaceae   | 0.870%     | 1.646%      | 1.865%       | 1.584%  |
| Lactobacillus      | 0.813%     | 1.522%      | 1.680%       | 1.450%  |
| Pediococcus        | 0.028%     | 0.035%      | 0.071%       | 0.047%  |
| unclassified       | 0.028%     | 0.090%      | 0.113%       | 0.087%  |
| Leuconostocaceae   | 3.140%     | 2.386%      | 2.167%       | 2.444%  |
| Leuconostoc        | 3.121%     | 2.355%      | 2.115%       | 2.407%  |
| Weissella          | 0.019%     | 0.027%      | 0.052%       | 0.035%  |
| unclassified       | 0.000%     | 0.004%      | 0.000%       | 0.002%  |
| Streptococcaceae   | 71.699%    | 74.408%     | 80.042%      | 75.987% |
| Lactococcus        | 64.936%    | 68.846%     | 75.473%      | 70.570% |
| Streptococcus      | 6.356%     | 5.181%      | 4.130%       | 5.010%  |
| unclassified       | 0.407%     | 0.381%      | 0.439%       | 0.407%  |
| unclassified       | 20.762%    | 18.173%     | 13.288%      | 16.848% |
| unclassified       | 20.762%    | 18.173%     | 13.288%      | 16.848% |
| unclassified       | 1.069%     | 0.946%      | 1.411%       | 1.140%  |
| unclassified       | 1.069%     | 0.946%      | 1.411%       | 1.140%  |
| unclassified       | 1.069%     | 0.946%      | 1.411%       | 1.140%  |
| unclassified       | 0.180%     | 0.183%      | 0.345%       | 0.242%  |
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| unclassified       | 0.180%     | 0.183%      | 0.345%       | 0.242%  |
| unclassified       | 0.180%     | 0.183%      | 0.345%       | 0.242%  |
| Proteobacteria     | 0.605%     | 0.775%      | 0.198%       | 0.531%  |
| Betaproteobacteria | 0.000%     | 0.008%      | 0.005%       | 0.005%  |
| Burkholderiales    | 0.000%     | 0.008%      | 0.000%       | 0.003%  |
| Comamonadaceae     | 0.000%     | 0.004%      | 0.000%       | 0.002%  |
| unclassified       | 0.000%     | 0.004%      | 0.000%       | 0.002%  |
| Oxalobacteraceae   | 0.000%     | 0.004%      | 0.000%       | 0.002%  |
| unclassified       | 0.000%     | 0.004%      | 0.000%       | 0.002%  |
| unclassified       | 0.000%     | 0.000%      | 0.005%       | 0.002%  |
| unclassified       | 0.000%     | 0.000%      | 0.005%       | 0.002%  |
| unclassified       | 0.000%     | 0.000%      | 0.005%       | 0.002%  |

| Taxon                   | III (curd) | III (fresh) | III (smoked) | Total  |
|-------------------------|------------|-------------|--------------|--------|
| Epsilonproteobacteria   | 0.000%     | 0.004%      | 0.000%       | 0.002% |
| Campylobacterales       | 0.000%     | 0.004%      | 0.000%       | 0.002% |
| unclassified            | 0.000%     | 0.004%      | 0.000%       | 0.002% |
| unclassified            | 0.000%     | 0.004%      | 0.000%       | 0.002% |
| Gammaproteobacteria     | 0.605%     | 0.763%      | 0.194%       | 0.524% |
| Enterobacteriales       | 0.047%     | 0.016%      | 0.052%       | 0.035% |
| Enterobacteriaceae      | 0.047%     | 0.016%      | 0.052%       | 0.035% |
| <i>Buttiauxella</i>     | 0.000%     | 0.000%      | 0.005%       | 0.002% |
| unclassified            | 0.047%     | 0.016%      | 0.047%       | 0.033% |
| Oceanospirillales       | 0.000%     | 0.004%      | 0.000%       | 0.002% |
| Halomonadaceae          | 0.000%     | 0.004%      | 0.000%       | 0.002% |
| <i>Chromohalobacter</i> | 0.000%     | 0.004%      | 0.000%       | 0.002% |
| Pseudomonadales         | 0.501%     | 0.708%      | 0.104%       | 0.447% |
| Moraxellaceae           | 0.501%     | 0.708%      | 0.104%       | 0.447% |
| <i>Acinetobacter</i>    | 0.009%     | 0.016%      | 0.009%       | 0.012% |
| <i>Enhydrobacter</i>    | 0.492%     | 0.658%      | 0.090%       | 0.418% |
| unclassified            | 0.000%     | 0.035%      | 0.005%       | 0.017% |
| unclassified            | 0.057%     | 0.035%      | 0.038%       | 0.040% |
| unclassified            | 0.057%     | 0.035%      | 0.038%       | 0.040% |
| unclassified            | 0.057%     | 0.035%      | 0.038%       | 0.040% |
| unclassified            | 0.085%     | 0.105%      | 0.071%       | 0.089% |
| unclassified            | 0.085%     | 0.105%      | 0.071%       | 0.089% |
| unclassified            | 0.085%     | 0.105%      | 0.071%       | 0.089% |
| unclassified            | 0.085%     | 0.105%      | 0.071%       | 0.089% |