**Table S1. Microbiological findings in liver, spleen, kidney, intestine, pulmonary and mesenteric lymph nodes of seals naturally infected with Seal/H10N7.**

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| **Animal****No.** | **VirologyNo.**  | **Liver** | **Spleen** | **Kidney** | **Lymph node****(pulmonary)** | **Intestine** | **Lymph node (intestinal)** |
| **1** | PV20731 | +++ S. equi ssp. zooepidemicus; | +++ S. equi ssp. zooepidemicus; | +++ S. equi ssp. zooepidemicus; | +++ S. equi ssp. zooepidemicus; | +++ S. equi ssp. zooepidemicus;+++ Cl. perfringens; + Proteus sp.; + Moellerella wisconsenis;  | +++ S. equi ssp. zooepidemicus; |
| **2** | PV20737 | ++ S. phocae; + Staphylococcus sp.; | + S. phocae; + Staphylococcus sp.;  | ++ S. phocae; | +++ S. phocae; + Staphylococcus sp. | + Proteus sp.; | ++ S. phocae; + Lactobacillus sp.; + α-hem. S.; |
| **3** | PV20738 | + E. coli;  | Almost no bacterial growth; | Almost no bacterial growth; | + E. coli;  | ++ E. coli; ++ hem. E. coli; | + E. coli; ++ α-hem. S. |
| **4** | PV20739 | + E. coli;  | ++ E. coli;  | ++ E. coli;  | + E. coli; + B. bronchiseptica;+ Moraxella sp. | + E. coli;  | + E. coli;  |
| **5** | PV20742 | + E. coli;  | + E. coli;  | ++ E. coli;  | + E. coli;  | +++ E. coli; +++ Cl. perfringens; | + E. coli; + coli-like germs; |
| **6** | PV20743 | + E. coli;  | Almost no bacterial growth; | + E. coli;  | + B. bronchiseptica;  | + S. phocae; +++ E. coli; + B. bronchiseptica; + Vibrio sp.; | +++ E. coli;  |
| **7** | PV20741 | + E. coli; + Psychrobacter sp.; | Almost no bacterial growth; | ++ Moraxella sp.;++ E. coli; + Proteus sp.;+ Psychrobacter sp.; | + E. coli; + B. bronchiseptica; | + Moraxella sp.;++ E. coli; + Psychrobacter sp.; | + Moraxella sp.;++ E. coli;  |
| **8** | PV20763 | +++ S. equi ssp. zooepidemicus; | +++ S. equi ssp. zooepidemicus; | +++ S. equi ssp. zooepidemicus;+ Kluyvera sp.; | +++ S. equi ssp. zooepidemicus;+ Kluyvera sp.;++ Macrococcus sp.; | +++ S. equi ssp. zooepidemicus; | +++ S. equi ssp. zooepidemicus; |
| **9** | PV20762 | Almost no bacterial growth; | + coli-like germs; | Almost no bacterial growth; | + Brucella sp.;+ Moraxella sp.; | + S. equi ssp. zooepidemicus;+ Pantoea sp.; | + Brucella sp.; |
| **10** | PV20745 | Almost no bacterial growth; | Almost no bacterial growth; | Almost no bacterial growth; | + Stenotropho-monas maltophilia;+ S. phocae;  | ++ Enterococcus sp.;+++ S. phocae; + Acinetobacter sp.; + Serratia liquefaciens;+++ Cl. perfringens; | No bacterial growth; |
| **11** | PV20764 | No bacterial growth; | No bacterial growth; | No bacterial growth; | + Neisseria sp.;  | + S. equi ssp. zooepidemicus; | Almost no bacterial growth; |
| **12** | PV20744 | No bacterial growth; | Almost no bacterial growth; | + S. equi ssp. zooepidemicus;+ S. phocae; | + S. equi ssp. zooepidemicus;+ S. phocae;+ Moellerella wisconsenis; + Neisseria sp.; + Arcanobacterium phocae; | ++ S. equi ssp. zooepidemicus;+ E. coli; | + S. equi ssp. zooepidemicus; |
| **13** | PV20769 | Almost no bacterial growth; | + α-hem. S.; | Almost no bacterial growth; | Almost no bacterial growth; | No bacterial growth; | No bacterial growth; |
| **14** | PV20768 | ++ Arcano-bacterium phocae;+ Neisseria sp.; + α-hem. S.;+ γ-hem. S.;  | + Arcanobacterium phocae;+ Neisseria sp.; + γ-hem. S.; + S. phocae; | +++ Arcano-bacterium phocae;++ Neisseria sp.; + Corynebacterium sp.; | + Arcanobacterium phocae;+ Neisseria sp.; + α-hem. S.;+ γ-hem. S.; + Corynebacterium sp.; | + Arcanobacterium phocae;+ Neisseria sp.;  | + Arcanobacterium phocae;+ Neisseria sp.;  |
| **15** | PV20767 | Almost no bacterial growth; | Almost no bacterial growth; | + γ-hem. S.; + Arthrobacter sp.; | Almost no bacterial growth; | + γ-hem. S.; +++ Cl. perfringens; | Almost no bacterial growth; |
| **16** | PV20766 | ++ E. coli;+ Acinetobacter pittii; | ++ E. coli;++ Acinetobacter pittii; | ++ E. coli;++ Pseudomonas sp.;+ Myroides odoratus; | ++ E. coli;+ Arcanobacterium phocae;+ Stenotropho-monas maltophilia; | ++ E. coli;++ Acinetobacter pittii;++ Cl. perfringens;+ yeasts; | ++ E. coli;+ Acinetobacter pittii; |

S. = Streptococcus; E. = Escherichia; B. = Bordetella; Cl. = Clostridium; hem. = hemolysing

Almost no bacterial growth = < 5 colonies

+ = low numbers of bacteria (5-50 colonies)

++ moderate numbers of bacteria (51-250 colonies)

+++ high numbers of bacteria (> 250 colonies)