A Pig Model of the Human Gastro-intestinal Tract

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COLLABORATIVE RESEARCH OPPORTUNITIES WITH TUFTS CUMMINGS SCHOOL OF VETERINARY MEDICINE (TCSVM)

Moderator:  Dr. Sawkat Anwer, PhD, DMVH, Tufts Cummings School of Veterinary Medicine (TCSVM)

Presenter:  Dr. Giovanni Widmer, PhD, TCSVM
16S amplicon sequencing

V1V2: Illumina HiSeq2500
150-nt single-end sequencing

V6: Illumina HiSeq2000
100-nt single-end sequencing
16S rRNA PCR strategy

primary PCR V6

ADAPTORACACTCTTTCCCCCAACGCGAAGAACCTTACG
972–990

N60

AGGTGNTGCATGGCTGTCGAGATCGGAAGAGCACACGTCTGAACTCCAGTCAC

1051–1069

secondary PCR V6

cust. sequencing primer

barcode read primer

secondary PCR V1V2

ADAPTORACACTCTTTCCCCAGAGTTTGATYMTGGCTCAG
7–27

N312

ACTCCTACGGGAGGCAGCAG
338–356

secondary PCR V1V2 with universal barcode primer
fecal transplants: human -> pig
taxonomy

experiment 1
adult-Similac

experiment 2
infant-Similac

experiment 3
adult-solid

age (days)

phylum-level classification (count)

Actinobacteria
Bacteroidetes
Firmicutes
Tenericutes
Proteobacteria
unclassified
Verrucomicrobia
fecal transplant: PCoA based on UniFrac distance

numbers indicate day post-inoculation
fecal transplant: effect of diet

experiment 1
adult-Similac

experiment 2
infant-Similac

experiment 3
adult-solid
ACKNOWLEDGMENTS

Quanshun Zhang  sample prep, animal experiments
Alex Walker   DNA extraction, library prep
Kevin Huynh   DNA extraction, library prep
Rachel Sora   animal care
Patty Boucher animal care
Albert Tai    Tufts Genomics Core
Kip Bodi      Tufts Genomics Core
Huyen Bum Kim data analysis
Durwood Marshall UIT support