ATTAGC	ATTAGC	ATTAGC
ATTAGC	ATTAGC	ATTAGC
ATTAGC	ATTAGC	ATTAGC

Environment 1	Environment 1	Environment 1
Environment 1	Environment 1	Environment 1
Environment 1	Environment 1	Environment 1

ATTAGC	ATTAGC	ATTAGC
ATTAGC	ATTAGC	ATTAGC
ATTAGC	ATATGA	ATATGA

Environment 1	Environment 1	Environment 1
Environment 1	Environment 1	Environment 1
Environment 1	Environment 1	Environment 1

GACTGT	GCTACG	GCTACG
GACTGT	GCTACG	GCTACG
GCTACG	GCTACG	GCTACG

Environment 2	Environment 2	Environment 1
Environment 2	Environment 2	Environment 1
Environment 2	Environment 2	Environment 2

GCTACG	GCTACG	GCTACG
GCTACG	GCTACG	GGATCG
GCTACG	GCTACG	GGATCG

Environment 2

Environment 2

Environment 2

Environment 2

Environment 2

Environment 2

Environment 2

Environment 2

Environment 2

GGATCG	CTACGT	GCTACG
CTACGT	GCTACG	GGATCG
CTACGT	GCTACG	GGATCG

Environment 3	Environment 2	Environment 2
Environment 3	Environment 3	Environment 2
Environment 3	Environment 3	Environment 2

GGATCG	GGATCG	GGATCG
GGATCG	GGATCG	GGATCG
GGATCG	GGATCG	GGATCG

Environment 3	Environment 3	Environment 3
Environment 3	Environment 3	Environment 3
Environment 3	Environment 3	Environment 3

GGATCG	GGATCG	GGATCG
GGATCG	GGATCG	CATAGC
GGATCG	GGATCG	CATAGC

Environment 4	Environment 3	Environment 3
Environment 4	Environment 3	Environment 3
Environment 4	Environment 3	Environment 3

CATAGC	CATAGC	CATAGC
CATAGC	CATAGC	CATAGC
CATAGC	CATAGC	CATAGC

Environment 4

Environment 4

Environment 4

Environment 4

Environment 4

Environment 4

Environment 4

Environment 4

Environment 4

CATAGC	CATAGC	CCGTCA
CATAGC	CATAGC	CCGTCA
CATAGC	CCGTCA	

Environment 4	Environment 4	Environment 4
Environment 4	Environment 4	Environment 4
	Environment 4	Environment 4

ATTAGC	GCTACG	CATAGC
ATATGA	GGATCG	CCGTCA
GACTGT	CTACGT	

Family: Enterobacteriaceae

Phylum: Proteobacteria
Class: Gammaproteobcateria
Order: Enterobacteriales

Gram-negative, facultative anaerobes and many members of this family are a normal part of the gut flora found in the intestines of humans and other animals. Some produce endotoxins that when released into blood stream can cause systematic inflammatory response.

Genus: *Ruminococcus*

Phylum: Firmicutes
Class: Clostridia
Order: Clostridiales
Family: Ruminococcaceae

Gram positive, anaerobic and significant numbers in the intestines of humans. Found in the rumen of cattle, sheep and goats to help their hosts digest cellulose.

Genus: *Anaerococcus*

Phylum: Firmicutes
Class: Clostridia
Order: Clostridiales

Gram positive, anaerobic and can cause infection and is part of the human microbiome and has been found to be associated with hyenas.

Family: Enterococcaceae

Phylum: Firmicutes
Class: Bacilli
Order: Lactobacillales

Gram-positive, facultatively anaerobic, or anaerobic. Associated with a wide range of ecological sources including plants, the gastrointestinal tract of insects, humans and other animals, and fermented foods.

Genus: *Bifidobacterium*

Phylum: Actinobacteria
Class: Actinobacteria
Order: Bifidobacteriales
Family: Bifidobacteriaceae

Usually called probiotics and are a natural part of the bacterial flora in the human body and have a symbiotic bacteria-host relationship with humans. Help promote digestion and boost immune system. Inhibit growth of pathogens.

Genus: *Fastidiosipila*

Phylum: Firmicutes
Class: Clostridia
Order: Clostridiales
Family: Ruminococcaceae

Gram positive, anaerobic and was first discovered in human blood and has been found to be associated with hyenas.

Genus: *Corynebacterium*

Phylum: Actinobacteria
Class: Actinobacteria
Order: Actinobacteridae
Family: Corynebacteriaceae

Gram positive, aerobic and can be isolated from soil, water, blood and skin. Commonly found in human mucous membranes and skin.

Genus: *Tissierella*

Phylum: Firmicutes
Class: Clostridia
Order: Clostridiales
Family: Incertae Sedis

Gram negative, obligate anaerobe. Found in human intestinal microbiota and in environmental sources.

Hyena Scent Glands	Pre-term Infant Human Gut	
Adult Human Gut		
Infant Human Gut		

	. The pre-term infant gut is similar to the infant human gut but are dominated by Proteobacteria.	The scent glands are unique and dominated by Firmicutes.
		An adult human gut is similar to the infant gut but is not dominated by Actinobacteria.
		The infant gut is similar to the adult human gut but is dominated by Actinobacteria.