

Supplementary Table 1 Phylogenetic identification of SSU rRNA gene clones from the skin of a healthy adult humpback whale (WH51) (n = 60 clones)

Identification ^a	Number of sequences (representative clones) ^b
Alphaproteobacteria	2
Rhodobacteraceae, <i>Paracoccus alkenifer</i>	1(GU201963)
Rhodobacteraceae, <i>Nereida ignava</i>	1 (GU201957)
Betaproteobacteria	5
Burkholderiaceae, <i>Brachymonas denitrificans</i>	2 (GU201966)
Burkholderiaceae, <i>Ralstonia pickettii</i>	3 (GU201960, GU201964)
Epsilonproteobacteria	2
Campylobacteriaceae, <i>Arcobacter skirrowii</i>	2 (GU201954)
Gammaproteobacteria	3
Enterobacteriales, <i>Enterobacter hormaechei</i>	2 (GU201970)
Moraxellaceae, uncultured lineage ^c	1 (GU201956)
Bacteroidetes	47
Flavobacteriaceae, uncultured lineage ^c	39 (GU201953, GU210955, GU201961, GU201968)
Flavobacteriaceae, <i>Tenacibaculum</i> lineage	8 (GU201967, GU201965, GU201958, GU201959, GU201962, GU201952)
Firmicutes	1
Ruminococcaceae, <i>Eubacterium desmolans</i>	1 (GU201969)

^a Taxonomic affiliations of each clone include the family and nearest related species or species lineage inferred from the 'All-Species Living Tree' project.

^b Clone names are GenBank accession numbers

^c Taxonomic affiliations of clones belonging to uncultured lineages are inferred from the Silva database SSU Reference release 95.

Supplementary Table 2 Phylogenetic identification of SSU rRNA gene clones from the skin of a healthy calf humpback whale (CALF) (n = 23 clones)

Identification ^a	Number of sequences (representative clones) ^b
Gammaproteobacteria	4
Halomonadaceae, <i>Halomonas meridiana</i>	2 (GU201975)
Piscirickettsiaceae, uncultured lineage ^c	2 (GU201972)
Bacteroidetes	19
Flavobacteriaceae, <i>Tenacibaculum</i> lineage	18 (GU201973, GU201974, GU210971)
Flavobacteriaceae, uncultured lineage ^c	1 (GU201976)

^a Taxonomic affiliations of each clone include the family and nearest related species or species lineage inferred from the 'All-Species Living Tree' project.

^b Clone names are GenBank accession numbers

^c Taxonomic affiliations of clones belonging to uncultured lineages are inferred from the Silva database SSU Reference release 95.

Supplementary Table 3 Phylogenetic identification of SSU rRNA gene clones from the skin of a health-compromised humpback whale (ENT1) (n = 94 clones)

Identification ^a	Number of sequences (representative clones) ^b
Alphaproteobacteria	2
Rhodobacteraceae, <i>Nereida ignava</i>	1 (GU201980)
Rhodobacteraceae, <i>Rhodobium salexigens</i>	1 (GU201990)
Gammaproteobacteria	62
Pasteurellaceae, <i>Pasteurella skyensis</i>	7 (GU201993, GU202010, GU201994, GU202012, GU201988)
Vibrionaceae, <i>Vibrio harveyi</i>	1 (GU201979)
Piscirickettsiaceae, uncultured lineage ^d	22 (GU202005, GU201996, GU202000)
Moraxellaceae, uncultured lineage ^c	29 (GU201984, GU201999, GU201991, GU201989, GU202004, GU201985, GU201997, GU202007, GU201992, GU202003)
Moraxellaceae, <i>Moraxella boevrei</i>	2 (GU201978)
unnamed family, <i>Sedimenticola selenatireducens</i>	1 (GU201987)
Fusobacteria	2
Fusobacteriaceae, <i>Fusobacterium russii</i>	2 (GU201981, GU202001)
Bacteroidetes	27
Porphyromonadaceae, <i>Prophyromonas catoniae</i>	1 (GU202009)
Uncultured lineage ^c	7 (GU202011, GU201982)
Flavobacteriaceae, <i>Tenacibaculum</i> lineage	9 (GU202006, GU202008, GU201983, GU202002, GU201995)
Flavobacteriaceae, uncultured lineage ^c	1 (GU202013)
Flavobacteriaceae, <i>Chryseobacterium</i> lineage	9 (GU201986, GU201998)
Firmicutes	1
<i>Fusibacter paucivorans</i>	1 (GU201977)

^a Taxonomic affiliations of each clone include the family and nearest related species or species lineage inferred from the 'All-Species Living Tree' project.

^b Clone names are GenBank accession numbers

^c Taxonomic affiliations of clones belonging to uncultured lineages are inferred from the Silva database SSU Reference release 95.