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INTERNATIONAL
WHALING COMMISSION

Standardizing nomenclature for mitochondrial DNA control region haplotypes of blue whales in the Southern Hemisphere and North Pacific

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Abstract - Here we review mtDNA control region sequences submitted to GenBank and derived from tissue samples collected from blue whales in the Southern Hemisphere and North Pacific. Sequences were trimmed such that a standard segment (327 bps in length), common to all available sequences, represented each submission. Sequences included in population-level studies were then compared to each other, in order of their submission to GenBank, to construct a mtDNA control region library containing only unique sequences. After library construction, all 133 mtDNA control region sequences submitted to GenBank were compared to the library to identify those sequences that were identical within the standardized segment. A total of 89 unique mtDNA haplotype sequences were identified and included in the library, and the nomenclature first assigned to each sequence, based on GenBank submission dates, was retained for the library. Based on the 327bp-standardized segment, 34 haplotype sequences were represented more than one time, such that 44 sequences were considered duplicates. However, five of these 44 sequences were unique if the full length of the submitted sequence was considered. The construction of this haplotype library, and the identification of submitted sequences that are identical over the consensus region, will facilitate building a combined dataset in the future if needed for assessments of pygmy-type blue whales.

Introduction -- In preparation for Southern Hemisphere pygmy blue whale assessments, it was recommended at SC66a that an intersessional email discussion be initiated to organize the existing mtDNA sequence data for pygmy blue whales. In the past decade, multiple labs have utilized mtDNA control region sequences to address questions about blue whale population structure. Many of the tissue samples that are currently available from blue whales in the Southern Hemisphere were collected as part of IWC research cruises. These samples are archived at the Southwest Fisheries Science Center, and DNA extracted from these samples has, upon IWC approval, been "loaned" to different research groups for use in their studies. The increasing number of blue whale genetic studies and, in particular, the potential that several of these studies have relied on DNA extracted from the same tissue sample raises the possibility that replicate sequences (e.g. identical sequences) may have been submitted to GenBank by different research groups. In order to avoid confusion and to facilitate building a combined dataset for use in future blue whale assessments, the objectives of the intersessional email group were 1) to establish a common nomenclature for SH pygmy blue whale haplotypes, and 2) to identify duplicates among blue whale mtDNA sequences that have been submitted to GenBank.

While the objectives of the group were initially focused only on mtDNA haplotype data derived from pygmy blue whales, in discussion amongst the group it was noted that mtDNA control region haplotypes found in pygmy blue whale feeding areas in the Southern Hemisphere have also been identified in Antarctic waters (LeDuc et al. 2007, Sremba et al. 2012), potentially due to the presence of migrant pygmy blue whales and pygmy-Antarctic blue whale hybrids within a portion of the Antarctic feeding range (Attard et al. 2012), as well as in the eastern Tropical Pacific and eastern

North Pacific (Torres-Florez et al. 2014b, LeDuc et al. submitted). Thus the group agreed that it was reasonable to include GenBank sequences derived from blue whales throughout the Southern Hemisphere as well as the North Pacific. Of note, only a single sequence that is available on GenBank could be identified as being from a blue whale sampled in the North Atlantic (GenBank Accession #s NC001601 and X72204, which have been noted as derived from the same sample), although the geographic origin of one subset of samples could not be identified (e.g. AY390265-390277, McEwing, unpublished). Thus the North Atlantic is not included in this review.

Methods -- MtDNA control region sequences derived from blue whales in the Southern Hemisphere and North Pacific were downloaded from GenBank as fasta files and then loaded into the Geneious software platform (Kearse et al. 2012) for comparisons. Only those sequences representing population datasets were utilized in library construction (Table 1); all sequences within each dataset were unique when the full length of the submitted sequences was considered. Within these datasets, sequence length ranged from 327 to 500 bps, and thus sequences were aligned and then trimmed so that a standardized segment (327 bp long) of the sequence was utilized in library construction.

Library construction was initiated using the LeDuc et al. 2007 dataset, which was the first to be made available on GenBank. Since these sequences had been trimmed for consistency across datasets, the LeDuc et al. 2007 sequences were first compared to each other using the “classify sequences” function in Geneious. Duplicate sequences within the LeDuc et al. 2007 dataset were removed, and the remaining sequences were included in the library. The five remaining datasets were compared to this initial library in the order in which they were submitted to GenBank, and sequences that did not match those from previous datasets were added to the library as they were identified. In accordance with precedence, the nomenclature associated with the first submission of each unique sequence was retained as the haplotype identifier for the library sequences.

Following library construction, all mtDNA control region sequences derived from Southern Hemisphere and North Pacific blue whales and available on GenBank (n= 133) were compared to the haplotype library to identify any remaining duplicate sequences.

Results and Discussion: Considering the standardized 327 bps segment, a total of 89 unique haplotypes were identified among these six datasets (Appendix Table 1 and 2) and were included in the library. Comparison of all available sequences to this library identified 44 sequences that were considered duplicates for the consensus region, with 34 haplotypes identified in two to seven entries (Table 2). Of note, however, five of those 44 sequences were unique if the full length of the submitted sequences were compared. The remaining 55 sequences were represented by a single submission to GenBank.

In the course of constructing this library, several recommendations for future studies to be utilized by the IWC SC were identified. These include:

- 1) A unique sample identifier (voucher sample id), and where possible location data (latitude and longitude of the sample collection site), should be included in the metadata when sequences are submitted to GenBank.
- 2) When generating mtDNA control region sequence data for studies to be presented at the IWC SC, the region sequenced should include (at a minimum) the candidate consensus region utilized in the library to facilitate comparisons to existing data.
- 3) Reports submitted for review by the SC should recognize blue whale mtDNA control region haplotypes in accordance with the nomenclature system identified here, and also include the GenBank Accession codes and the length (number of bps) of the sequence.

In addition, future discussions should focus on how to extend the current nomenclature system for use with longer sequences. One possibility is to follow the protocols utilized in online cataloging of mtDNA sequences in marine turtles (<http://accstr.ufl.edu/files/cmlongmtdna.pdf>). This protocol utilizes the nomenclature associated with the original (shorter) foundation sequence when naming longer sequences, but appends variants with the suffix “.1”, “.2”, “.3”, etc. Identifying and agreeing

upon a protocol for naming longer sequences in blue whales is likely to become increasingly important in the future as studies shift toward sequencing longer and often full length mitogenome sequences.

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Table 1. MtDNA control region sequence sets used in library construction. Abbreviations for regions are as follows: ANT, Antarctic; IO, Indian Ocean; ESP, Eastern South Pacific; ETP, Eastern Tropical Pacific; ENP, Eastern North Pacific.

Reference	GenBank Accession IDs	Date published on GenBank	# of sequences submitted	Regions represented by submitted sequences
LeDuc et al. 2007	EU093919-093962	August 2007	44	ANT, IO, ESP
Attard et al. 2010	HQ130726-130731	November 2010	6	IO (Australia)
Sremba et al. 2012	JN801048-801070	March 2012	23	ANT
Enriquez-Paredes et al. (unpublished)	JQ717162-717178	January 2013	17	ENP
Torres-Florez et al. 2014a	JX035887-035890; KC116222-116225	August 2014	8	ESP
LeDuc et al. (submitted)	KP187710-187738	December 2015	29	ETP, ESP, ENP

Table 2. MtDNA control region library haplotypes and the number of sequences submitted to GenBank that match each haplotype over the 327bp-long consensus region.

IWC.Seq.ID	# of sequences	Comment
d	7	Four unique sequences are represented when the full length of the submitted sequences are considered.
NPBW13	4	
NPBW07	3	
p	3	
q	3	Two unique sequences are represented when the full length of submitted sequences are considered
Attard_3	2	
Attard_9	2	
BMCH02	2	
BMCH03	2	
BMCH04	2	
dd	2	
e	2	
k	2	
LeDuc_56	2	
NPBW06	2	
NPBW10	2	
NPBW15	2	
NPBW16	2	
NPBW18	2	
o	2	
s	2	
t	2	
u	2	Two unique sequences are represented when the full length of submitted sequences are considered
Z-51460	2	
Z-51461	2	
Z-51470	2	
Z-51472	2	
Z-51480	2	
Z-51481	2	
Z-51486	2	
Z-72906	2	
Z-72910	2	
Z-72956	2	
Z-88257	2	
aa	1	
Attard_15	1	
Attard_4	1	

Attard_8	1
b	1
bb	1
c	1
ee	1
f	1
ff	1
g	1
gg	1
h	1
hh	1
i	1
ii	1
j	1
kk	1
l	1
LeDuc_53	1
LeDuc_54	1
LeDuc_55	1
LeDuc_62	1
LeDuc_70	1
ll	1
m	1
mm	1
n	1
nn	1
NPBW05	1
NPBW09	1
NPBW11	1
NPBW17	1
oo	1
rr	1
ss	1
tt	1
uu	1
v	1
w	1
x	1
y	1
z	1
Z-13951	1
Z-62481	1
Z-62482	1

Z-62487	1
Z-72912	1
Z-72916	1
Z-72917	1
Z-72929	1
Z-72931	1
Z-72935	1
Z-72943	1
Z-72949	1
<hr/>	
Grand Total	133
<hr/>	

Appendix

Appendix Table 1. Haplotype sequence identifier (IWC SeqID), GenBank accession number, length of original sequence, voucher sequence identifier, and reference for mtDNA control region sequences included in the IWC mtDNA haplotype library for blue whales in the Southern Hemisphere and North Pacific (numbered references are listed after Table 2)

IWC SeqID	GenBank Accession #	Original Sequence Length (bp)	Voucher ID	Reference
b	EU093919	414	SWFSC z5018	6
c	EU093920	414	SWFSC z5019	6
d	EU093921	414	SWFSC z5020	6
e	EU093922	414	SWFSC z5021	6
f	EU093923	414	SWFSC z7328	6
g	EU093924	414	SWFSC z7329	6
h	EU093925	414	SWFSC z7336	6
i	EU093926	414	SWFSC z7340	6
j	EU093927	414	SWFSC z7342	6
k	EU093928	414	SWFSC z7619	6
l	EU093929	414	SWFSC z7621	6
m	EU093930	414	SWFSC z7622	6
n	EU093931	414	SWFSC z7623	6
o	EU093932	363	SWFSC z11150	6
p	EU093933	363	SWFSC z11151	6
q	EU093934	414	SWFSC z11173	6
s	EU093936	363	SWFSC z11157	6
t	EU093937	363	SWFSC z11160	6
u	EU093938	414	SWFSC z26573	6
v	EU093939	414	SWFSC z26588	6
w	EU093940	414	SWFSC z12026	6
x	EU093941	347	SWFSC z13180	6
y	EU093942	414	SWFSC z13187	6
z	EU093943	414	SWFSC z23525	6
aa	EU093944	358	SWFSC z13184	6
bb	EU093945	414	SWFSC z23527	6
dd	EU093947	414	SWFSC z11990	6
ee	EU093948	414	SWFSC z23528	6
ff	EU093949	414	SWFSC z13944	6
gg	EU093950	414	SWFSC z13945	6
hh	EU093951	414	SWFSC z13948	6
ii	EU093952	414	SWFSC z23982	6
kk	EU093954	414	SWFSC z23984	6
ll	EU093955	414	SWFSC z11895	6
mm	EU093956	414	SWFSC z24013	6
nn	EU093957	414	SWFSC z26574	6
oo	EU093958	414	SWFSC z26578	6
rr	EU093959	414	SWFSC z26589	6
ss	EU093960	414	SWFSC z26590	6
tt	EU093961	414	SWFSC z26594	6
uu	EU093962	414	SWFSC z26644	6

IWC SeqID	GenBank Accession #	Original Sequence Length (bp)	Voucher ID	Reference
Attard_3	HQ130726	394		1
Attard_4	HQ130727	394		1
Attard_8	HQ130728	394		1
Attard_9	HQ130729	394		1
Attard_15	HQ130731	393		1
Z-13951	JN801048	410	SWFSC z13951	8
Z-51460	JN801049	410	SWFSC z51460	8
Z-51461	JN801050	410	SWFSC z51461	8
Z-51470	JN801051	410	SWFSC z51470	8
Z-51472	JN801052	410	SWFSC z51472	8
Z-51480	JN801053	410	SWFSC z51480	8
Z-51481	JN801054	410	SWFSC z51481	8
Z-51486	JN801055	410	SWFSC z51486	8
Z-62481	JN801056	410	SWFSC z62481	8
Z-62482	JN801057	410	SWFSC z62482	8
Z-62487	JN801058	410	SWFSC z62487	8
Z-72910	JN801059	410	SWFSC z72910	8
Z-72912	JN801060	406	SWFSC z72912	8
Z-72916	JN801061	410	SWFSC z72916	8
Z-72917	JN801062	410	SWFSC z72917	8
Z-72929	JN801063	410	SWFSC z72929	8
Z-72931	JN801064	397	SWFSC z72931	8
Z-72935	JN801065	410	SWFSC z72935	8
Z-72943	JN801066	410	SWFSC z72943	8
Z-72949	JN801067	406	SWFSC z72949	8
Z-72956	JN801068	410	SWFSC z72956	8
Z-88257	JN801069	410	SWFSC z88257	8
Z-72906	JN801070	410	SWFSC z72906	8
NPBW05	JQ717165	500	CICIMAR:IPN Bm0047	4
NPBW06	JQ717166	500	CICIMAR:IPN Bm0040	4
NPBW07	JQ717167	500	CICIMAR:IPN Bm0018	4
NPBW09	JQ717169	500	CICIMAR:IPN Bm0346	4
NPBW10	JQ717170	500	CICIMAR:IPN Bm0379	4
NPBW11	JQ717171	500	CICIMAR:IPN Bm0223	4
NPBW13	JQ717173	500	CICIMAR:IPN Bm0141	4
NPBW15	JQ717175	500	CICIMAR:IPN Bm0338	4
NPBW16	JQ717176	500	CICIMAR:IPN Bm0020	4
NPBW17	JQ717177	500	CICIMAR:IPN Bm0373	4
NPBW18	JQ717178	500	CICIMAR:IPN Bm0184	4
BMCH02	JX035888	410		9
BMCH03	JX035889	410		9
BMCH04	JX035890	410		9
LeDuc_53	KP187717	414		7
LeDuc_54	KP187718	414		7
LeDuc_55	KP187719	414		7
LeDuc_56	KP187720	414		7
LeDuc_62	KP187726	414		7

IWC SeqID	GenBank Accession #	Original Sequence Length (bp)	Voucher ID	Reference
LeDuc_70	KP187734	414		7

Appendix Table 2. The IWC sequence identifier for all mtDNA control region sequences of blue whales in the Southern Hemisphere and North Pacific that have been submitted to GenBank. Numbered references are listed below the table.

Accession #	IWC SeqID	Original Sequence Length	Voucher ID	Reference
AY235201	LeDuc_56	457		3
AY822087	k	389	SWFSC z7619	5
AY822088	d	406	SWFSC z7620	5
DQ145043	NPBW13	364	BmusMX.SB	Baker, U of Auckland
DQ145044	d	335	BmusNZ2.SB	Baker, U of Auckland
DQ145102	NPBW13	432	Blue.MX	2
EU093919	b	414	SWFSC z5018	6
EU093920	c	414	SWFSC z5019	6
EU093921	d	414	SWFSC z5020	6
EU093922	e	414	SWFSC z5021	6
EU093923	f	414	SWFSC z7328	6
EU093924	g	414	SWFSC z7329	6
EU093925	h	414	SWFSC z7336	6
EU093926	i	414	SWFSC z7340	6
EU093927	j	414	SWFSC z7342	6
EU093928	k	414	SWFSC z7619	6
EU093929	l	414	SWFSC z7621	6
EU093930	m	414	SWFSC z7622	6
EU093931	n	414	SWFSC z7623	6
EU093932	o	363	SWFSC z11150	6
EU093933	p	363	SWFSC z11151	6
EU093934	q	414	SWFSC z11173	6
EU093935	d	414	SWFSC z11989	6
EU093936	s	363	SWFSC z11157	6
EU093937	t	363	SWFSC z11160	6
EU093938	u	414	SWFSC z26573	6
EU093939	v	414	SWFSC z26588	6

Accession #	IWC SeqID	Original Sequence Length	Voucher ID	Reference
EU093940	w	414	SWFSC z12026	6
EU093941	x	347	SWFSC z13180	6
EU093942	y	414	SWFSC z13187	6
EU093943	z	414	SWFSC z23525	6
EU093944	aa	358	SWFSC z13184	6
EU093945	bb	414	SWFSC z23527	6
EU093946	u	414	SWFSC z9852	6
EU093947	dd	414	SWFSC z11990	6
EU093948	ee	414	SWFSC z23528	6
EU093949	ff	414	SWFSC z13944	6
EU093950	gg	414	SWFSC z13945	6
EU093951	hh	414	SWFSC z13948	6
EU093952	ii	414	SWFSC z23982	6
EU093953	q	414	SWFSC z23983	6
EU093954	kk	414	SWFSC z23984	6
EU093955	ll	414	SWFSC z11895	6
EU093956	mm	414	SWFSC z24013	6
EU093957	nn	414	SWFSC z26574	6
EU093958	oo	414	SWFSC z26578	6
EU093959	rr	414	SWFSC z26589	6
EU093960	ss	414	SWFSC z26590	6
EU093961	tt	414	SWFSC z26594	6
EU093962	uu	414	SWFSC z26644	6
HQ130726	Attard_3	394		1
HQ130727	Attard_4	394		1
HQ130728	Attard_8	394		1
HQ130729	Attard_9	394		1
HQ130730	d	394		1
HQ130731	Attard_15	393		1
JN801048	Z-13951	410	SWFSC z13951	8
JN801049	Z-51460	410	SWFSC z51460	8
JN801050	Z-51461	410	SWFSC z51461	8
JN801051	Z-51470	410	SWFSC z51470	8

Accession #	IWC SeqID	Original Sequence Length	Voucher ID	Reference
JN801052	Z-51472	410	SWFSC z51472	8
JN801053	Z-51480	410	SWFSC z51480	8
JN801054	Z-51481	410	SWFSC z51481	8
JN801055	Z-51486	410	SWFSC z51486	8
JN801056	Z-62481	410	SWFSC z62481	8
JN801057	Z-62482	410	SWFSC z62482	8
JN801058	Z-62487	410	SWFSC z62487	8
JN801059	Z-72910	410	SWFSC z72910	8
JN801060	Z-72912	406	SWFSC z72912	8
JN801061	Z-72916	410	SWFSC z72916	8
JN801062	Z-72917	410	SWFSC z72917	8
JN801063	Z-72929	410	SWFSC z72929	8
JN801064	Z-72931	397	SWFSC z72931	8
JN801065	Z-72935	410	SWFSC z72935	8
JN801066	Z-72943	410	SWFSC z72943	8
JN801067	Z-72949	406	SWFSC z72949	8
JN801068	Z-72956	410	SWFSC z72956	8
JN801069	Z-88257	410	SWFSC z88257	8
JN801070	Z-72906	410	SWFSC z72906	8
JQ717162	d	500	CICIMAR:IPN Bm0003	4
JQ717163	d	500	CICIMAR:IPN Bm0036	4
JQ717164	e	500	CICIMAR:IPN Bm0447	4
JQ717165	NPBW05	500	CICIMAR:IPN Bm0047	4
JQ717166	NPBW06	500	CICIMAR:IPN Bm0040	4
JQ717167	NPBW07	500	CICIMAR:IPN Bm0018	4
JQ717168	dd	500	CICIMAR:IPN Bm0001	4
JQ717169	NPBW09	500	CICIMAR:IPN Bm0346	4
JQ717170	NPBW10	500	CICIMAR:IPN Bm0379	4
JQ717171	NPBW11	500	CICIMAR:IPN Bm0223	4
JQ717172	p	500	CICIMAR:IPN Bm0486	4
JQ717173	NPBW13	500	CICIMAR:IPN Bm0141	4
JQ717174	q	500	CICIMAR:IPN Bm0012	4
JQ717175	NPBW15	500	CICIMAR:IPN Bm0338	4

Accession #	IWC SeqID	Original Sequence Length	Voucher ID	Reference
JQ717176	NPBW16	500	CICIMAR:IPN Bm0020	4
JQ717177	NPBW17	500	CICIMAR:IPN Bm0373	4
JQ717178	NPBW18	500	CICIMAR:IPN Bm0184	4
JX035887	NPBW07	410		9
JX035888	BMCH02	410		9
JX035889	BMCH03	410		9
JX035890	BMCH04	410		9
KC116222	p	410		9
KC116223	s	410		9
KC116224	o	410		9
KC116225	t	410		9
KP187710	Z-51470	414		7
KP187711	Z-51486	414		7
KP187712	Attard_9	414		7
KP187713	Z-88257	414		7
KP187714	Z-51460	414		7
KP187715	Z-72910	414		7
KP187716	NPBW16	414		7
KP187717	LeDuc_53	414		7
KP187718	LeDuc_54	414		7
KP187719	LeDuc_55	414		7
KP187720	LeDuc_56	414		7
KP187721	Z-51481	414		7
KP187722	Z-51472	414		7
KP187723	NPBW07	414		7
KP187724	NPBW06	414		7
KP187725	NPBW10	414		7
KP187726	LeDuc_62	414		7
KP187727	NPBW13	414		7
KP187728	Z-51480	414		7
KP187729	Attard_3	414		7
KP187730	NPBW18	414		7
KP187731	Z-72956	414		7

Accession #	IWC SeqID	Original Sequence Length	Voucher ID	Reference
KP187732	Z-51461	414		7
KP187733	NPBW15	414		7
KP187734	LeDuc_70	414		7
KP187735	Z-72906	414		7
KP187736	BMCH02	414		7
KP187737	BMCH03	414		7
KP187738	BMCH04	414		7

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Appendix Sequence Data: Fasta sequences (327bps) for the blue whale IWC mtDNA library control region sequences.

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>LeDuc_70 KP187734; Balaenoptera musculus haplotype 70 D-loop, partial sequence; mitochondrial
CCGCAAAGCCACAGTACTATGTCCGTATTAATAATAATTATCTCATTACATATTGTTATGTACTTCCGTGCA
TGTATGTACTCCCCATAACCAGTTAATCAGTGTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCCCGTATTAATAATTTTATTAATTTTACATATTAC
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ATAATATTTATTAATAGTACAGTAGTGCATGTTCTTATGCATCCCCAGGTCAATTCAAATCAAATGATTCCCT
ATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGC

>LeDuc_62 KP187726; Balaenoptera musculus haplotype 62 D-loop, partial sequence; mitochondrial
CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAATTATCTCATTACATATTGTTATGTACTTCGTGCA
TGTATGTACTCCCTCATAACCAGTTAATCAGTGTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCCCGTATTAATTTTATTAATTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTACATGTTCTTATGCATCCCCAGGTCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAACCTAATCACCATGC

>LeDuc_56 KP187720; Balaenoptera musculus haplotype 56 D-loop, partial sequence; mitochondrial
CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAATTATCTCATTACATATTGTTATGTACTCTGTGCA
TGTATGTACTTCCCATAACCAGTTAATCAGTGTATCCCTGTGAATATGTATATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCCCGTATTAATTTTATTAATTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTACATGTTCTTATGCATCCTCAGATCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCGCGAGCTTAATCACCATGC

>LeDuc_55 KP187719; Balaenoptera musculus haplotype 55 D-loop, partial sequence; mitochondrial
CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAATTATCTCATTACATATTGTTATGTACTTCGTGCA
TGTATGTACTCCCCATAACCAGTTAATCAGTGTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACTACGAGCAGTTAAAGCTCGTATTAATTTTATTAATTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTACATGTTCTTATGCATCCTCAGGTCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGC

>LeDuc_54 KP187718; Balaenoptera musculus haplotype 54 D-loop, partial sequence; mitochondrial
CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAATTATCTCATTACATATTGTTATGTACTTCGTGCA
TGTATGTACTTCCCATAACCAGTTAATCAGTGTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCTCGTATTAATTTTATTAATTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTACATGTTCTTATGCATCCTCAGATCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGC

>LeDuc_53 KP187717; Balaenoptera musculus haplotype 53 D-loop, partial sequence; mitochondrial
CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAATTATCTCATTACATATTGTTATGTACTTCGTGCA
TGTATGTACTTCCCATAACCAGTTAATCAGTGTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCTCGTATTAATTTTATTAATTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTACATGTTCTTATGCATCCTCAGATCGATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGC

>BMCH04 JX035890; Balaenoptera musculus haplotype BMCH04 D-loop, partial sequence;
mitochondrial

CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAATTATCTCATTACATATTGTTATGTACTTCGTGCA
TGCATGTACTCCCCATAACCAGTTAATCAGTGTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCCCGTATCAAATTTTATTAATTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTACATGTTCTTATGCATCCTCAGGTCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>BMCH03 JX035889; Balaenoptera musculus haplotype BMCH03 D-loop, partial sequence;
mitochondrial

CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAATTATCTCATTACATATTGTTATGTACTTCGTGCA
TGTATGTACTCCCCATAACCAGTTAATCAGTGTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCCCGTATTAATTTTATTAATTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTGCATGTTCTTATGCATCCCCAGGTCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>BMCH02 JX035888; Balaenoptera musculus haplotype BMCH02 D-loop, partial sequence;
mitochondrial

CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAATTATCTCATTACATATTGTTATGTACTTCGTGCA
TGCATGTACTCCCCATAACCAGTTAATCAGTGTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACTACGAGCAGTTAAAGCCCGTATTAATTTTATTAATTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTGCATGTTCTTATGCATCCCCAGGTCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>NPBW18 JQ717178; Balaenoptera musculus haplotype NPBW18 control region, partial sequence;
mitochondrial

CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAAATTATCTCATTACATATTGTTATGTACTTCGTGCA
TGTATGTACTCCCTCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCCCGTATTAATTTTATTAATTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTGCATGTTCTTATGCATCCTCAGGTCAATTTAAATCAAATGATTCT
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>NPBW17 JQ717177; Balaenoptera musculus haplotype NPBW17 control region, partial sequence;
mitochondrial

CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAAATTATCTCATTACATATTGTTATGTACTTCGTGCA
TGTATGTACTCCCCATGACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCCCGTATTAATTTTATTAATTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTACATGTTCTTATGCATCCTCAGGTCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>NPBW16 JQ717176; Balaenoptera musculus haplotype NPBW16 control region, partial sequence;
mitochondrial

CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAAATTATCTCATTACATATTGTTATGTACTTCGTGCA
TGTATGTACTCCCCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCTCGTATTAATTTTATTAATTTTACATATTAC
ATAATATTTATTAATAGTACAATAGTACATGTTCTTATGCATCCCCAGATCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>NPBW15 JQ717175; Balaenoptera musculus haplotype NPBW15 control region, partial sequence;
mitochondrial

CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAAATTATCTCATTACATATTGTTATGTACTTCGTGCA
TGTATGTACTCCCCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCCCGTATTAATTTTATTAATTTTACATATTAC
ATAATATTTATTAATAGTACAATAGTACATGTTCTTATGCATCCCCAGATCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>NPBW13 JQ717173; Balaenoptera musculus haplotype NPBW13 control region, partial sequence;
mitochondrial

CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAAATTATCTCATTACATATTGTTATGTACTTCGTGCA
TGTATGTACTCCCCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCCCGTATTAATTTTATTAATTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTACATGTTCTTATGCATCCTCAGGTCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>NPBW11 JQ717171; Balaenoptera musculus haplotype NPBW11 control region, partial sequence;
mitochondrial

CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAAATTATCTCATTACATATTGTTATGTACTTCGTGCA
TGCATGTACTTCCTCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACTACGAGCAGTTAAAGCCCGTATTAATTTTATTAATTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTACATGTTCTTATGCATCCCCAGGTCAATTTAAATCAAATGATTTC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>NPBW10 JQ717170; Balaenoptera musculus haplotype NPBW10 control region, partial sequence;
mitochondrial

CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAAATTATCTCATTACATATTGTTATGTACTCCGTGCA
TGTATGTACTTCCTCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCCCGTATTAATTTTATTAATTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTACATGTTCTTATGCATCCCCAGGTCAATTTAAATCAAATGATTTC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>NPBW09 JQ717169; Balaenoptera musculus haplotype NPBW09 control region, partial sequence;
mitochondrial

CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAAATTATCTCATTACATATTGTTATGTACTCCGTGCA
TGTATGTACTTCCTCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCCCGTATTAATTTTATTAATTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTACATGTTCTTATGCATCCTCAGGTCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>NPBW07 JQ717167; Balaenoptera musculus haplotype NPBW07 control region, partial sequence; mitochondrial
 CCGCAAAGCCACAGTACTATGTCCGTATTA AAAAATAATTATCTCATTACATATTGTTATGTACTCCGTGCA
 TGCATGTACTTCCTCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
 AATTGTGCATTCAATTATCTTCACTACGAGCAGTTAAAGCCCGTATTA AATTTTATTAATTTTACATATTAC
 ATAATATTTATTAATAGTACAGTAGTACATGTTCTTATGCATCCCCAGGTCAATTTAAATCAAATGATTTC
 TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>NPBW06 JQ717166; Balaenoptera musculus haplotype NPBW06 control region, partial sequence; mitochondrial
 CCGCAAAGCCACAGTACTATGTCCGTATTA AAAAATAATTATCTCATTACATATTGTTATGTACTCCGTGCA
 TGCATGTACTTCCTCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
 AATTGTGCATTCAATTATCTTCAACCAGCAGTTAAAGCCCGTATTA AATTTTATTAATTTTACATATTAC
 ATAATATTTATTAATAGTACAGTAGTACATGTTCTTATGCATCCCCAGGTCAATTTAAATCAAATGATTTC
 TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>NPBW05 JQ717165; Balaenoptera musculus haplotype NPBW05 control region, partial sequence; mitochondrial
 CCGCAAAGCCACAGTACTATGTCCGTATTA AAAAATAATTATCTCATTACATATTGTTATGTACTCCGTGCA
 TGTATGTACTTCCTCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
 AATTGTGCATTCAATTATCTTCAACCAGCAGTTAAAGCTCGTATTA AATTTTATTAATTTTACATATTAC
 ATAATATTTATTAATAGTACAGTAGTACATGTTCTTATGCATCCTCAGATCGATTTAAATCAAATGATTCC
 TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>Z-72906 JN801070; Balaenoptera musculus haplotype Z-72906 control region, partial sequence; mitochondrial
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 TGTATGTACTCCCCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
 AATTGTGCATTCAATTATCTTCAACCAGCAGTTAAAGCTCGTATTA AATTTTATTAATTTTACATATTAC
 ATAATATTTATTAATAGTACAGTAGTACATGTTCTTATGCATCCTCAGGTCAATTTAAATCAAATGATTCC
 TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>Z-88257 JN801069; Balaenoptera musculus haplotype Z-88257_OSU control region, partial sequence; mitochondrial
 CCGCAAAGCCACAGTACTATGTCCGTATTA AAAAATAATTATCTCATTACATATTGTTATGTACTTCGTGCA
 TGTATGTACTTCCTCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
 AATTGTGCATTCAATTATATTCAACCAGCAGTTAAAGCTCGTATTA AATTTTATTAATTTTACATATTA
 CATAATATTCATTAATAGTACAGTAGTACATGTTCTTATGCATCCCCAGATCAATTTAAATCAAATGATTCC
 TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>Z-72956 JN801068; Balaenoptera musculus haplotype Z-72956_OSU control region, partial sequence; mitochondrial
 CCGCAAAGCCACAGTACTATGTCCGTATTA AAAAATAGTTATCTCATTACATATTGTTATGTACTTCGTGCA
 TGTATGTACTTCCTCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
 AATTGTGCATTCAATTATCTTCAACCAGCAGTTAAAGCCCGTATTA AATTTTATTAATTTTACATATTAC
 ATAATATTTATTAATAGTACAGTAGTACATGTTCTTATGCATCCTCAGGTCAATTTAAATCAAATGATTCC
 TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>Z-72949 JN801067; Balaenoptera musculus haplotype Z-72949_OSU control region, partial sequence; mitochondrial
 CCGCAAAGCCACAGTACTATGTCCGTATTA AAAAATAATTATCTCATTACATATTGTTATGTACTTCGTGCA
 TGTATGTACTCCCCATAACCAGTTAATCAATGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
 AATTGTGCATTCAATTATCTTCAACCAGCAGTTAAAGCTCGTATTA AATTTTATTAATTTTACATATTAC
 ATAATATTCATTAATAGTACAGTAGTACATGTTCTTATGCATCCCCAGATCAATTTAAATCAAATGATTCC
 ATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>Z-72943 JN801066; Balaenoptera musculus haplotype Z-72943_OSU control region, partial sequence; mitochondrial
 CCGCAAAGCCACAGTACTATGTCCGTATTA AAAAATAATTATCTCATTACATATTGTTATGTACTTCGTGCA
 TGTATGTACTTCCTCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
 AATTGTGCATTCAATTATTTTCAACCAGCAGTTAAAGCCCGTATTA AATTTTATTAATTTTACATATTAC

ATAATATTTATTAATAGTACAGTAGTACATGTTCTTATGCATCCTCAGATCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC
>Z-72935 JN801065; Balaenoptera musculus haplotype Z-72935_OSU control region, partial
sequence; mitochondrial
CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAAATTATCTCATTACATATTGTTATGTACTTCGTGCA
TGTATGTACCCCCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCTCGTATTAATTTTTATTAATTTTTACATATTAC
ATAATATTCATTAATAGTACAGTAGTACATGTTCTTATGCATCCCCAGGTCAATTTAAATCAAATGATTCCCT
ATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC
>Z-72931 JN801064; Balaenoptera musculus haplotype Z-72931_OSU control region, partial
sequence; mitochondrial
CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAAATTATCTCATTACATATTGCTATGTACTTCGTGCA
TGTATGTACTCCCCATAACCAGTTAATCAGTATCATTCCCTGTGAATATGTATACATACACATGCTATGTAT
AACTGTGCATTCAATTATCTTCACTACGAGCAGTTAAAGCTCGTATTAATTTTTATTAATTTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGCGCATGTTCTTATGCATCCTCAGATCAATTTAAATCAAATGATTTCC
TATGGCCGCTCCATTAGATCACGAGCTTAACCACCATGCC
>Z-72929 JN801063; Balaenoptera musculus haplotype Z-72929_OSU control region, partial
sequence; mitochondrial
CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAAATTATCTCATTACATATTGTCATGTACTTCGTGCA
TGTATGTACTCCCCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACTACGAGCAGTTAAAGCCCGTATTAATTTTTATTAATTTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTACATGTTCTTATGCATCCCCAGGTCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC
>Z-72917 JN801062; Balaenoptera musculus haplotype Z-72917_OSU control region, partial
sequence; mitochondrial
CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAAATTATCTCATTACATATTGTTATGTACTTCGTGCA
TGTATGTACTTCCCTCATAACCAGCTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACTACGAGCAGTTAAAGCCCGTATTAATTTTTATTAATTTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTACATGTTCTTATGCATCCCCAGGTCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC
>Z-72916 JN801061; Balaenoptera musculus haplotype Z-72916_OSU control region, partial
sequence; mitochondrial
CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAAATTATCTCATTACATATTGTTATGTACTTCGTGCA
TGTATGTACTCCCCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACTACGAGCAGTTAAAGCCCGTATTAATTTTTATTAATTTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTACATGTTCTTATGCATCCTCAGGTCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC
>Z-72912 JN801060; Balaenoptera musculus haplotype Z-72912_OSU control region, partial
sequence; mitochondrial
CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAAATTATCTCATTACATATTGTTATGTACTTCGTGCA
TGTATGTACTTCCCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTATGCATTCAATTATCTTCACTACGAGCAGTTAAAGCCCGTATTAATTTTTATTAATTTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTACATGTTCTTATGCATCCTCAGGTCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC
>Z-72910_ JN801059; Balaenoptera musculus haplotype Z-72910 control region, partial
sequence; mitochondrial
CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAAATTATCTCATTACATATTGTTATGTACTTCGTGCA
TGCATGTACTCCCCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACTACGAGCAGTTAAAGCTCGTATTAATTTTTATTAATTTTTACATATTAC
ATAATATTCATTAATAGTACAGTAGTACATGCTCTTATGCATCCCCAGGTCAATTTAAATCAAATGATTCCCT
ATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC
>Z-62487 JN801058; Balaenoptera musculus haplotype Z-62487_OSU control region, partial
sequence; mitochondrial
CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAAATTATCTCATTACATATTGTTATGTACTTCGTGCA
TGTATGTACTCCCCATAACCAGTTAATCAGTGTTACCCCTGTGAATATGTATACATACACATGCTATGTAT

AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCTCGTATTAATTTTATTAATTTTACATATTAC
ATAATATTCATTAATAGTACAGTAGTACATGTTCTTATGCATCCCCAGATCAATTTAAATCAAATGATTCC
ATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>Z-62482 JN801057; Balaenoptera musculus haplotype Z-62482_OSU control region, partial
sequence; mitochondrial

CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAATTATCTCATTACATATTGTTATGTACTTCGTGCA
TGTATGTACTTCCTCATAACCAGTAATCAATGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCTCGTATTAATTTTATTAATTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTGCATGTTCTTATGCATCCCCAGGTCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>Z-62481 JN801056; Balaenoptera musculus haplotype Z-62481_OSU control region, partial
sequence; mitochondrial

CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAATTATCTCATTACATATTGTTATGTACTCCGTGCA
TGTATGTACTCCCCATAACCAGTTAATCAGTGTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGTCCGTATTAATTTTATTAATTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTGCATGTTCTTATGCATCCTCAGATCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>Z-51486 JN801055; Balaenoptera musculus haplotype Z-51486_OSU control region, partial
sequence; mitochondrial

CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAATTATCTCATTACATATTGTTATGTACTTCGTGCA
TGTATGTACTCCCCATAACCAGTTAATCAGTGTATCCCTGTGAATATGTATATATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCCCGTATTAATTTTATTAATTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTGCATGTTCTTATGCATCCTCAGGTCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>Z-51481 JN801054; Balaenoptera musculus haplotype Z-51481_OSU control region, partial
sequence; mitochondrial

CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAATTATCTCATTACATATTGTTATGTACTTCGTGCA
TGTATGTACTCCCCATAACCAGTTAATCAGTGTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCCCGTATTAATTTTATTAATTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGCGCATGTTCTTATGCATCCTCAGGTCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>Z-51480 JN801053; Balaenoptera musculus haplotype Z-51480_OSU control region, partial
sequence; mitochondrial

CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAATTATCTCATTACATATTGTCATGTACTTCGTGCA
TGTATGTACTCCCTCATAACCAGTTAATCAGTGTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCCCGTATTAATTTTATTAATTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTGCATGTTCTTATGCATCCTCAGGTCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>Z-51472 JN801052; Balaenoptera musculus haplotype Z-51472_OSU control region, partial
sequence; mitochondrial

CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAATTATCTCATTACATATTGTTATGTACTCCGTGCA
TGTATGTACTCCCCATAACCAGTTAATCAGTGTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCCCGTATTAATTTTATTAATTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTGCATGTTCTTATGCATCCTCAGGTCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>Z-51470 JN801051; Balaenoptera musculus haplotype Z-51470_OSU control region, partial
sequence; mitochondrial

CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAATTATCTCATTACATATTGTTATGTACTTCGTGCA
TGTATGTACTCCCCATAACCAGTTAATCAGTGTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATTTTACCACGAGAAGTTAAAGCCCGTATTAATTTTATTAATTTTACATATTA
CATAATATTTATTAATAGTACAGTAGCGCATGTTCTTATGCATCCTCAGGTCAATTTAAATCAAATGATCCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>Z-51461 JN801050; Balaenoptera musculus haplotype Z-51461_OSU control region, partial
sequence; mitochondrial

CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAAATTATCTCATTACATATTGTTATGTACTTCGTGCA
TGTATGTACTCCCCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCTCGTATTAATTTTATTAATTTTACATATTAC
ATAATATTCATTAATAGTACAGTAGTACATGTTCTTATGCATCCCCAGATCAATTTAAATCAAATGATTCCCT
ATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>Z-51460 JN801049; Balaenoptera musculus haplotype Z-51460_OSU control region, partial
sequence; mitochondrial

CCGCAAACCACAGTACTATGTCCGTATTAATAAATAAATTATCTCATTACATATTGTTATGTACTTCGTGCA
TGTATGTACTCCCCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCCCGTATTAATTTTATTAATTTTACATATTAC
ATAATATTCATTAATAGTACAGTAGTACATGTTCTTATGCATCCTCAGGTCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>Z-13951 JN801048; Balaenoptera musculus haplotype Z-13951_OSU control region, partial
sequence; mitochondrial

CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAAATTATCTCATTACATATTGTTATGTACTTCGTGCA
TGTATGTACTCCCCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCCCGTATTAATTTTATTAATTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTGCATGTTCTTATGCATCCCCAGATCAATTTAAATCAAACGATTCCCT
ATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>Attard_15 HQ130731; Balaenoptera musculus haplotype 15 control region, partial sequence;
mitochondrial

CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAAATTATCTCATTACATATTGTTATGTACTTCGTGCAT
GTATGTACTCCCCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTATA
ATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCCCGTATTAATTTTATTAATTTTACATATTACA
TAATATTTATTAATAGTACAGTAGTACATGTTCTTATGCATCCTCAGGTCAATTTAAATCAAATGATTCCCT
ATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>Attard_9 HQ130729; Balaenoptera musculus haplotype 9 control region, partial sequence;
mitochondrial

CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAAATTATCTCATTACATATTGTTATGTACTTCGTGCA
TGTATGTACTCCCCATAACCAGTTAATCAATGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCCCGTATTAATTTTATTAATTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTACATGTTCTTATGCATCCTCAGGTCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>Attard_8 HQ130728; Balaenoptera musculus haplotype 8 control region, partial sequence;
mitochondrial

CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAAATTATCTCATTACATATTGTTATGTACTCCGTGCA
TGTATGTACTCCCTCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCCCGTATTAATTTTATTAATTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTACATGTTCTTATGCATCCTCAGGTCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>Attard_4 HQ130727; Balaenoptera musculus haplotype 4 control region, partial sequence;
mitochondrial

CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAAATTATCTCATTACATATTGTTATGTACTTCGTGCA
TGTATGTACTCCCTCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTATGCATTCAATTATCTTCACCACGAGCAGTTAAAGCCCGTATTAATTTTATTAATTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTGCATGCTCTTATGCATCCTCAGGTCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>Attard_3 HQ130726; Balaenoptera musculus haplotype 3 control region, partial sequence;
mitochondrial

CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAAATTATCTCATTACATATTGTTATGTACTTCGTGCA
TGTATGTACTCCCTCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCCCGTATTAATTTTATTAATTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTGCATGCTCTTATGCATCCTCAGGTCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>uu EU093962; Balaenoptera musculus haplotype uu control region, partial sequence; mitochondrial

CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAAATTATCTCATTACATATTGTTATGTACTTCGTGCA
TGTATGTACTCCCTCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCTCGTATTAATTTTTATTAATTTTTACATATTAC
ATAATATTCATTAATAGTACAGTAGTACATGTTCTTATGCATCCCCAGATCAATTTAAATCAAATGATTCC
ATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>tt EU093961; Balaenoptera musculus haplotype tt control region, partial sequence; mitochondrial
CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAAATTATCTCATTACATATTGTTATGTACTTCGTGCA
TGTATGTACCCCTCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCCCGTATTAATTTTTATTAATTTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTGCATGCTCTTATGCATCCTCAGATCAATTTAAATCAAATGATTCC
TATGGCCGCCCCATTAGATCACGAGCTTAATCACCATGCC

>ss EU093960; Balaenoptera musculus haplotype ss control region, partial sequence; mitochondrial
CCGCAAAGCTACAGTACTATGTCCGTATTAATAAATAAATTATCTCATTACATATTGTTATGTACTTCGTGCA
TGTATGTACTCCCTCATAACCAGTTAATCAGTATTACCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCTCGTATTAATTTTTATTAATTTTTACATATTAC
ATAATATTCATTAATAGTACAGTAGTACATGTTCTTATGCATCCCCAGATCAATTTAAATCAAATGATTCC
ATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>rr EU093959; Balaenoptera musculus haplotype rr control region, partial sequence; mitochondrial
CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAAATTATCTCATTACATATTGTTATGTACTTCGTGCA
TGTATGTACTCCCTCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCCCGTATTAATTTTTATTAATTTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTACATGTTCTTATGCATCCTCAGGCCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>oo EU093958; Balaenoptera musculus haplotype oo control region, partial sequence; mitochondrial
CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAAATTATCTCATTACATATTGTTATGTACTTCGTGCA
TATATGTACTTCCTCATAACCAGCTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCCCGTATTAATTTTTATTAATTTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTACATGTTCTTATGCATCCCCAGGTCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>nn EU093957; Balaenoptera musculus haplotype nn control region, partial sequence; mitochondrial
CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAAATTATCTCATTACATATTGTTATGTACTTCGTGCA
TGTATGTACTGCCCCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCCCGTATTAACCTTTATTAATTTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTACATGTTCTTATGCATCCCCAGGTCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>mm EU093956; Balaenoptera musculus haplotype mm control region, partial sequence;
mitochondrial

CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAAATTATCTCATTACATATTGTTATGTACTTCGTGCA
TGTATGTACTCCCCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCCCGTATTAATTTTTATTAATTTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTACATGCTCTTATGCATCCTCAGGTCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>ll EU093955; Balaenoptera musculus haplotype ll control region, partial sequence; mitochondrial
CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAAATTATCTCATTACATATTGTTATGTACTTCGTGCA
TGTATGTACTCCCCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCCCGTATTAATTTTTATTAATTTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTACATGTTCTTATGCATCCTCAGGTCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>kk EU093954; Balaenoptera musculus haplotype kk control region, partial sequence; mitochondrial
CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAAATTATCTCATTACATATTGTTATGTACTTCGTGCA
TGTATGTACTCCCCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTACATTCAATTATCTTCACCACGAGCAGTTAAAGCCCGTATTAATTTTTATTAATTTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTACATGTTCTTATGCATCCTCAGGTCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>ii EU093952; Balaenoptera musculus haplotype ii control region, partial sequence; mitochondrial

CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAAATTATCTCATTACATATTGTTATGTACTCCGTGCA
TGTATGTACTCCCCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCCCGTATTAATTTTTATTAATTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTACATGTTCTTATGCATCCTCAGGTCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>hh EU093951; Balaenoptera musculus haplotype hh control region, partial sequence; mitochondrial
CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAAATTATCTCATTACATATTGTTATGTACTCCGTGCA
TGTATGTACTTTCCCCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCCCGTATTAATTTTTATTAATTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTGCATGTTCTTATGCATCCCCAGATCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>gg EU093950; Balaenoptera musculus haplotype gg control region, partial sequence; mitochondrial
CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAAATTATCTCATTACATATTGTTATGTACTCCGTGCA
TGTATGTACTCCCTCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCTCGTATTAAACTTTATTAATTTTACATATTAC
ATAATATTCATTAATAGTACAGTAGTACATGTTCTTATGCATCCCCAGATCAATTTAAATCAAATGATTCC
ATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>ff EU093949; Balaenoptera musculus haplotype ff control region, partial sequence; mitochondrial
CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAAATTATCTCATTACATATTGTTATGTACTCTGTGCA
TGTATGTACTTTCCCCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCCCGTATTAATTTTTATTAATTTTACATATTAC
ATAATATTTATTAATAGTACAATAGTGCATGTTCTTATGCATCCCCAGATCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>ee EU093948; Balaenoptera musculus haplotype ee control region, partial sequence; mitochondrial
CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAAATTATCTCATTACATATTGTTATGTACTCCGTGCA
TGTATGTACCCCTCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCCCGTATTAATTTTTATTAATTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTGCATGTTCTTATGCATCCTCAGATCAATTTAAATCAAATGATTCC
TATGGCCGCCCCATTAGATCACGAGCTTAATCACCATGCC

>dd EU093947; Balaenoptera musculus haplotype dd control region, partial sequence; mitochondrial
CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAAATTATCTCATTACATATTGTTATGTACTCCGTGCA
TGCATGTACTTCTCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATATACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACTACGAGCAGTTAAAGCCCGTATTAATTTTTATTAATTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTGCATGTTCTTATGCATCCCCAGGTCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>bb EU093945; Balaenoptera musculus haplotype bb control region, partial sequence; mitochondrial
CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAAATTATCTCATTACATATTGTTATGTACTTCCGTGCA
TGTATGTACTCCCCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCTCGTATTAATTTTTATTAATTTTACATATTAC
ATAATATTCATTAATAGTACAGTAGTACATGTTCTTATGCATCCCCAGATCAATTTAAATCAAATGATTCT
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>aa EU093944; Balaenoptera musculus haplotype aa control region, partial sequence; mitochondrial
CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAAATTATCTCATTACATATTGTTATGTACTTCCGTGCA
TGTATGTACTCCCTCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCTCGTATTAATTTTTATTAATTTTACATATTAC
ATAATATTCATTAATAGTACAATAGTACATGTTCTTATGCATCCCCAGATCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>z EU093943; Balaenoptera musculus haplotype z control region, partial sequence; mitochondrial
CCGCAAAGCTACAGTACTATGTCCGTATTAATAAATAAATTATCTCATTACATATTGTTATGTACTTCCGTGCA
TGTATGTACTCCCTCATAACCAGTTAATCAGTGTTACCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCTCGTATTAATTTTTATTAATTTTACATATTAC
ATAATATTCATTAATAGTACAGTAGTACATGTTCTTATGCATCCCCAGATCAATTTAAATCAAATGATTCC
ATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>y EU093942; Balaenoptera musculus haplotype y control region, partial sequence; mitochondrial

CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAATTATCTCATTACATATTGTTATGTACTTCGTGCA
TGTATGTACTCCCCATGACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCCCGTATTAACCTTTATTAATTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTACATGTTCTTATGCATCCCCAGATCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>x EU093941; Balaenoptera musculus haplotype x control region, partial sequence; mitochondrial
CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAATTATCTCATTACATATTGTTATGTACTTCGTGCA
TGTATGTACTTCCTCATAACCAGCTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCCCGTATTAACCTTTATTAATTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTGCATGTTCTTATGCATCCCCAGGTCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>w EU093940; Balaenoptera musculus haplotype w control region, partial sequence; mitochondrial
CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAATTATCTCATTACATATTGTTATGTACTTCGTGCA
TGTATGTACTCCCCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCCCGTATTAACCTTTATTAATTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTACATGTTCTTATGCATCCTCAGGTCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>v EU093939; Balaenoptera musculus haplotype v control region, partial sequence; mitochondrial
CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAATTATCTCATTACATATTGCTATGTACTTCGTGCA
TGTATGTACTCCCTCATAACCAGTTAATCAGTACCATTCCCTGTGAATATGTATACATACACATGCTATGTAT
AACTGTGCATTCAATTATCTTCACTACGAGCAGTTAAAGCTCGTATTAACCTTTATTAATTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGCGCATGCTCTTATGCATCCTCAGGTCAATTTAAATCAAATGATTCC
ATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>u EU093938; Balaenoptera musculus haplotype u control region, partial sequence; mitochondrial
CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAATTATCTCATTACATATTGTTATGTACTTCGTGCA
TGTATGTACTTCCTCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCCCGTATTAACCTTTATTAATTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTACATGTTCTTATGCATCCTCAGGTCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>t EU093937; Balaenoptera musculus haplotype t control region, partial sequence; mitochondrial
CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAATTATCTCATTACATATTGTTATGTACTTCGTGCA
TGTATGTACTCCCCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCCCGTATTAACCTTTATTAATTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTACATGTTCTTATGCATCCCCAGGTCAATTTAAATCAAATGATTCC
ATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>s EU093936; Balaenoptera musculus haplotype s control region, partial sequence; mitochondrial
CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAATTATCTCATTACATATTGTTATGTACTCCGTGCA
TGCATGTACTTCCTCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACTACGAGCAGTTAAAGCCCGTATTAACCTTTATTAATTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTGCATGTTCTTATGCATCCCCAGGTCAATTTAAATCAAATGATTTC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>q EU093934; Balaenoptera musculus haplotype q control region, partial sequence; mitochondrial
CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAATTATCTCATTACATATTGTTATGTACTTCGTGCA
TGTATGTACTCCCCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCCCGTATTAACCTTTATTAATTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTGCATGTTCTTATGCATCCCCAGGTCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>p EU093933; Balaenoptera musculus haplotype p control region, partial sequence; mitochondrial
CCGCAAAGCCACAGTACTATGTCCGTATTAATAAATAATTATCTCATTACATATTGTTATGTACTTCGTGCA
TGCATGTACTCCCCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCCCGTATTAACCTTTATTAATTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTACATGTTCTTATGCATCCTCAGGTCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>o EU093932; Balaenoptera musculus haplotype o control region, partial sequence; mitochondrial

CCGCAAAGCCACAGTACTATGTCCGTATTAATAATAATTATCTCATTACATATTGTTATGTACTCCGTGCA
TGCATGTACTCCCCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCCCGTATTAATTTTATTAATTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTACATGTTCTTATGCATCCTCAGGTCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>n EU093931; Balaenoptera musculus haplotype n control region, partial sequence; mitochondrial
CCGCAAAGCCACAGTACTATGTCCGTATTAATAATAATTATCTCATTACATATTGTTATGTACTTCCGTGCA
TGTATGTACCCCTCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCCCGTATTAATTTTATTAATTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTGCATGCTTATGCATCCTCAGATCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>m EU093930; Balaenoptera musculus haplotype m control region, partial sequence; mitochondrial
CCGCAAAGCCACAGTACTATGTCCGTATTAATAATAATTATCTCATTACATATTGTTATGTACTTCCGTGCA
TGTATGTACTTCCCTCATAACCAGTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCCCGTATTAATTTTATTAATTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTACATGTTCTTATGCATCCCAGGTCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>l EU093929; Balaenoptera musculus haplotype l control region, partial sequence; mitochondrial
CCGCAAAGCCACAGTACTATGTCCGTATTAATAATAATTATCTCATTACATATTGTTATGTACTCCGTGCA
TGTATGTACTTCCCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCCCGTATTAATTTTATTAATTTTACATATTAC
ATAATATTCATTAATAGTACAGTAGTACATGTTCTTATGCATCCCAGATCAATTTAAATCAAATGATTCCCT
ATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>k EU093928; Balaenoptera musculus haplotype k control region, partial sequence; mitochondrial
CCGCAAAGCCACAGTACTATGTCCGTATTAATAATAATTATCTCATTACATATTGTTATGTACTCTGTGCA
TGTATGTACTTCCCATGACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCCCGTATTAATTTTATTAATTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTACATGTTCTTATGCATCCTCAGATCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>j EU093927; Balaenoptera musculus haplotype j control region, partial sequence; mitochondrial
CCGCAAAGCCACAGTACTATGTCCGTATTAATAATAATTATCTCATTACATATTGTTATGTACTCTGTGCA
TGTATGTACTTCCCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCCCGTATTAATTTTATTAATTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTACATGTTCTTATGCATCCTCAGATCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>i EU093926; Balaenoptera musculus haplotype i control region, partial sequence; mitochondrial
CCGCAAAGCCACAGTACTATGTCCGTATTAATAATAATTATCTCATTACATATTGTTATGTACTTCCGTGCA
TGTATGTACTTCCCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCTCGTATTAATTTTATTAATTTTACATATTAC
ATAATATTCATTAATAGTACAGTAGTACATGTTCTTATGCATCCCAGATCAATTTAAATCAAATGATTCCCT
ATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>h EU093925; Balaenoptera musculus haplotype h control region, partial sequence; mitochondrial
CCGCAAAGCCACAGTACTATGTCCGTATTAATAATAATTATCTCATTACATATTGTTATGTACTTCCGTGCA
TGTATGTACTCCCCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCCCGTATTAATTTTATTAATTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTGCATGTTCTTATGCATCCCAGGTCAATTTAAATCAAATGATCCCT
ATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>g EU093924; Balaenoptera musculus haplotype g control region, partial sequence; mitochondrial
CCGCAAAGCCACAGTACTATGTCCGTATTAATAATAATTATCTCATTACATATTGTTATGTACTTCCGTGCA
TGTATGTACTCCCTCATAACCAGTTAATCAGTGTTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCCCGTATTAATTTTATTAATTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTACATGTTCTTATGCATCCTCAGGTCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>f EU093923; Balaenoptera musculus haplotype f control region, partial sequence; mitochondrial

CCGCAAAGCCACAGTACTATGTCCGTATTAATAATAATTATCTCATTACATATTGTTATGTACTTCGTGCA
TGTATGTACTCCCCATAACCAGTTAATCAGTGTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCCCGTATTAATTTTATTAATTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTACATGTTCTTATGCATCCTCAGGTCAATTTAAATCAAACGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>e EU093922; *Balaenoptera musculus* haplotype e control region, partial sequence; mitochondrial
CCGCAAAGCCACAGTACTATGTCCGTATTAATAATAATTATCTCATTACATATTGTTATGTACTTCGTGCA
TGTATGTACTCCCCATAACCAGTTAGTCAGTGTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCCCGTATTAATTTTATTAATTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTACATGTTCTTATGCATCCTCAGGTCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>d EU093921; *Balaenoptera musculus* haplotype d control region, partial sequence; mitochondrial
CCGCAAAGCCACAGTACTATGTCCGTATTAATAATAATTATCTCATTACATATTGTTATGTACTTCGTGCA
TGTATGTACTCCCCATAACCAGTTAATCAGTGTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCCCGTATTAATTTTATTAATTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTACATGTTCTTATGCATCCTCAGGTCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>c EU093920; *Balaenoptera musculus* haplotype c control region, partial sequence; mitochondrial
CCGCAAAGCCACAGTACTATGTCCGTATTAATAATAATTATCTCATTACATATTGTTATGTACTTCGTGCA
TGTATGTACTCCCCATAACCAGTTAATCAGTGTATCCCTGTGAATATGTATATATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCCCGTATTAATTTTATTAATTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTACATGTTCTTATGCATCCTCAGGTCAATTTAAATCAAATGATTCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC

>b EU093919; *Balaenoptera musculus* haplotype b control region, partial sequence; mitochondrial
CCGCAAAGCCACAGTACTATGTCCGTATTAATAATAATTATCTCATTACATATTGTTATGTACTTCGTGCA
TGTATGTACTCCCCATAACCAGTTAATCAGTGTATCCCTGTGAATATGTATACATACACATGCTATGTAT
AATTGTGCATTCAATTATCTTCACCACGAGCAGTTAAAGCCCGTATTAATTTTATTAATTTTACATATTAC
ATAATATTTATTAATAGTACAGTAGTACATGTTCTTATGCATCCTCAGGTCAATTTAAATCAAATGATCCC
TATGGCCGCTCCATTAGATCACGAGCTTAATCACCATGCC