

**Supplemental Figure S1 to Structure and function of the ABCD1 variant database: 20 years, 940 pathogenic variants and 3400 cases of adrenoleukodystrophy**

**CLUSTAL Omega (1.2.4) multiple sequence alignment of ABCD1 proteins from 54 different species**

Human	mpvlsrprpwrngntlkrtavllalaaygahkvypvlvrqclaparglqapageptqeasgv	60
Chimpanzee	mpvlsrprpwrngntlkrtavllalaaygahkvypvlvrqclaparglqapageptqeasgv	60
Elephant	mpvlstprpsrvttlkrtavvlaltaygahkiyplvrqclgpargpqgpagepageasga	60
Gorilla	mpvlsrprpwrngntlkrtavllalaaygahkvypvlvrqclaparglqapageptqeasgv	60
Green-Monkey	-mpvprprpwrngstlkrtavllalaaygahkvypvlvrqclapargsqapakestqeasg-	58
Jerboa	mpvlstprssrvttlkrtavvlaltaygvhkiyplvrqcltpargqpvpapeptqeapga	60
Macaque	mpvlsrprpwrngstlkrtavllalaaygvhkvypvlvrqclapvrgsqapareptqessga	60
Marmoset	mpvlsmprpwrngstlkrtavllalaaygahkayplvrqclavargqpqapardptqeasga	60
Mouse	mpvlstprpsrvttlkrtavvlaltaygvhkiyplvrqcltpargqpvpapeptqeasga	60
Orangutan	mpvlsrprpwrngstlkrtavllalaaygahkvypvlvrqclasargqpapageptqeasgv	60
Panda	mpvlstprssrvttlkrtalvltaltaygahkiyplvrqylaatrpgqpvpapeptqeisga	60
Pig	mtvlstprpsrvttlkrtavvlaltaygahkiyplvrqclapargqpqgprelatqevpga	60
Pika	mpvlsttrpsrattlkrtavimalaaygahklyplvrqclglargqpvpgrgeptqeapgs	60
Prairie-deer-mouse	mpvlstprssrvttlkrtavvlaltaygvhkiyplvrqcltpargqpvtgempqetsga	60
Rabbit	mpvlstarpssrvttlkrtavvvaltaygvhkiyplvrqclapargqpvpgrgeptqeasga	60
Rat	mpvlstprpsrvttlkrtavvlaltaygvhkiyplvrqcltpargqpvpapeptqeasga	60
Rhesus-Monkey	mpvlsrprpwrngstlkrtavllalaaygvhkvypvlvrqclapargsqapareptqessga	60
Seal	mpvlstsrssrvttlkrtalvltaltaygahkiyplvrqylaatrpgqpvpapeptqeasga	60
Squirrel-Monkey	mpvlstprpwrngstlkrtavllalaaygahkayplvrqclalargqpqaptrdptqeasga	60
Tarsier	mpvlstprpsrvttlkrtavvlalaaygvhkiyplvrqclapargqpqglareptqeapga	60
Tasmanian-devil	-----	0
Walrus	mpvlstprssrvttlkrtalvltaltaygahkiyplvrqylaatrpgqpvpapeptqeasga	60
Water-buffalo	-----	0
White-Rhinoceros	mpvlsiprpsrvttlkrtavllaltaygahkiyplvrqclvpargqpvpapeptqetsga	60
Yak	mtvlstprasrvttlkrtavvlaltaygahklyplvrqclapargqpqapave-----	52
Aardvark	mpvlstprpsrvttlkrtavvlaltaygahklyplvrqclapargtlgvpvgqlqea---	57
Alpaca	mtvlstyrpsrvttlkrtavvlaltaygahkvypvlvrqclalarspqsagesaqevsga	60
Armadillo	mpvlstprssrvttlkrtavvlaltaygahkiyplvrqclvparspqqgsrepaqdaaga	60
Baboon	mpvlsrprpwrngstlkrtavllalaaygvhkvypvlvrqclapargsqapareptqeasga	60
Bat	mpvlstprssrvttlkrtavvlaltaygahkiyplvrqclapargqpvpapeptqeasgt	60
Cat	mpvlstprpsrvttlkrtalvltaltaygahkiyplvrqylaasrgqpvpapeptqdvsga	60
Chinchilla	mpvlstprpsrvttlkrtavvlaltaygahklyplvrqclapargqpqgpageptqealgs	60
Chinese-hamster	mpvlstprssrvttlkrtavvlaltaygvhkiyplvrqcltpargqpvpapeptqetsgv	60
Cow	mtvlstprasrvttlkrtavvlaltaygahklyplvrqclapargqpqapaveptpdvsga	60
Dog	mpvlstprssrvttlkrtalvltaltaygahkiyplvrhylaatrpgqpvpapeptqeasga	60
Dolphin	-----	0
Ferret	mpvlstprssrvttlkrtalvltaltaygahkvypllrqylaatrpgqpvpapeptqeasga	60
Florida-manatee	msvlstprpsrvttlkrtavvlaltaygahkiyplvrqclapargqpvpapeptqeasga	60
Flying-Fox	mpvlstprlsrvttlkrtavvlaltaygahkiypllrqclaparapqlpageptqeasga	60
Golden-hamster	mpvlstprssrvttlkrtavvlaltaygvhkiyplvrqcltpargqpvpapeptqeasgv	58
Ground-Squirrel	mpvlstprpsrvttlkrtavvlaltaygvhkiyplvrqclarsrgqpvpapeptqealea	60
Guinea-pig	mpvlstprpsrvttlkrtavvlaltaygahklyplvrqclapargqpqgpageptqealgp	60
Hedgehog	mpvlstpkpsrattlkrtavvlalaaygahklyplarqclalalarappgpapdpqeal-t	59
Horse	mpvlstpqpsrvttlkrtavvlaltaygahkiyplvrqclapargqpvpapeptqeasga	60
Lemur	mpvlstprpsrvttlkrtavalaitygvhkiyplvrqclapargqpvpapeptqetsga	60
Minke-whale	-----vltaltaygahkiyplvrqclapargqpvtpagespqaasga	40
Mole-rat	mpvlstprssrvttlkrtavvlaltayglqkiyplvrqcltpargqpvpapeptqqaasga	60
Naked-mole-rat	mpvlstprpsrvttlkrtavvlaltaygahklyplvrqcltpargqpvpapeptqqaasga	60
Opposum	-----	0
Orca	mtvlstprpsrvttlkrtavvlaltaygahkiyplvrqclapargqpvtpagesaqeasga	60
Prairie-vole	mpvlstprssrvttlkrtavvlaltaygvhkiyplvrqcltpargqpvpapeptqeasga	60
Python	-----a	1
Small-eared-galago	mpvlstprssrvttlkrtavvlaltaygvhkiyplvrqclaparvtqgptreptqeasgs	60
Sperm-whale	mtvlstprpsrvttlkrtavvlaltaygahkiyplvrqclapargqpvtpagesaqeasga	60
Human	aaakagmnrvflqrlwlrlrlfprvlcretgllalhhsaalvsrtflsvyvarldgrlar	120
Chimpanzee	aaakagmnrvflqrlwlrlrlfprvlcretgllalhhsaalvsrtflsvyvarldgrlar	120
Elephant	aaakasvnrflqrlwlrlrlfprvlcretgllalhhsaalvsrtflsvyvarldgrlar	120
Gorilla	aaakagmnrvflqrlwlrlrlfprvlcretgllalhhsaalvsrtflsvyvarldgrlar	120
Green-Monkey	--akagmnrvflqrlwlrlrlfprvlcretgllalhhsaalvsrtflsvyvarldgrlar	116
Jerboa	taakagmnrvflqrlwlrlrlfprvlcretgllalhhsaalvsrtflsvyvarldgrlar	120
Macaque	aaakagmnrvflqrlmwlrlrlfprvlcretgllalhhsaalvsrtflsvyvarldgrlar	120
Marmoset	aaaktgmnrvflqrlwlrlrlfprvlcretgllalhhsaalvsrtflsvyvarldgrlar	120
Mouse	tatkagmnrvflqrlalrlrlfprvlcretgllalhhsaalvsrtflsvyvarldgrlar	120
Orangutan	aaakagmnrvflqrlwlrlrlfprvlcretgllalhhsaalvsrtflsvyvarldgrlar	120
Panda	taakasvnrflqrlglrlrlfprtlcretgllalhhsaalvsrtflsvyvarldgrlar	120
Pig	taakagvnrflqrlwlrlrlfprlcretgllalhhsaalvsrtflsvyvarldgrlar	120
Pika	taakagmnrvflqrlwlrlrlfprvlcretgllalhhsaalvsrtflsvyvarldgrlar	120
Prairie-deer-mouse	taaragmnrvflqrlwlrlrlfprvlcretgllalhhsaalvsrtflsvyvarldgrlar	120

Rabbit	taakagmnrvflqrlwlrlrlfprvlcretgllalhhsaalvsrtflsvyvarldgrlar	120
Rat	ttakagmnrvflqrlwlrlrlfpgvlcretgllalhhsaalvsrtflsvyvarldgrlar	120
Rhesus-Monkey	aaakagmnrvflqrlmwlrlrlfprvlcretgllalhhsaalvsrtflsvyvarldgrlar	120
Seal	taakagvnrflqrlglrlrlfprtlcretgllalhhsaalvsrtflsvyvarldgrlar	120
Squirrel-Monkey	aaakagmnrvflqrlwlrlrlfprvlcretgllalhhsaalvsrtflsvyvarldgrlar	120
Tarsier	saakagmnrvflqrlwlrlrlfprvlcretgllalhsgalvsrtflsvyvarldgrlar	120
Tasmanian-devil	-----	0
Walrus	taakagvnrflqrlglrlrlfprtlcretgllalhhsaalvsrtflsvyvarldgrlar	120
Water-buffalo	---kagvnqvlqrlwlrlrlfprilcretgllalhhsaalvsrtflsvyvarldgrlar	57
White-Rhinoceros	-aakagvnrflqrlwlrlrlfprilcretgllalhhsatlvrtflsvyvarldgrlar	119
Yak	-----flqrlwlrlrlfprilcretgllalhhsaalvsrtflsvyvarldgrlar	102
Aardvark	---kasvnrflqrlwlrlrlfprvlcretgllalhhsaalvsrtflsvyvarldgrlar	114
Alpaca	t--kagvnrflqrlwlrlrlfprilcretgllalhhsaalvsrtflsvyvarldgrlar	118
Armadillo	aaakasvnrflrlllwlrlrlfprvlcretgllalhhsaalvsrtflsvyvarldgrlvr	120
Baboon	aaakagmnrvflqrlwlrlrlfprvlcretgllalhhsaalvsrtflsvyvarldgrlar	120
Bat	tgakagvnrflqrlwlrlrlfprilcretgllalhhsaalvsrtflsvyvarldgrlar	120
Cat	taakasvnrflrlllglrlrlfprtlcretgllalhhsaalvsrtflsvyvarldgrlar	120
Chinchilla	taakagmnrvflrlllwlrlrlfprvlcretgllalhhsaalvsrtflsvyvarldgrlar	120
Chinese-hamster	taakagmnrvflqrlwlrlrlfprilcretgllalhhsaalvsrtflsvyvarldgrlar	120
Cow	pagkagvnqvlqrlwlrlrlfprilcretgllalhhsaalvsrtflsvyvarldgrlar	120
Dog	taakasvnrflqrlglrlrlfprtlcretgllalhhsaalvsrtflsvyvarldgrlar	120
Dolphin	-----nrvffqrlwlrlrlfprilcretgllalhhsaalvsrtflsvyvarldgrlar	53
Ferret	taakasvnrflqrlfgllrlrlfprtlcretgllalhhsaalvsrtflsvyvarldgrlar	120
Florida-manatee	a-akasvnrflqrlwlrlrlfprvlcretgllalhhsaalvsrtflsvyvarldgrlar	119
Flying-Fox	tatkagvnrflqrlwlrlrlfprilcretgllalhhsaalvsrtflsvyvarldgrlar	120
Golden-hamster	taakagmnrvflqrlwlrlrlfprilcretgllalhhsaalvsrtflsvyvarldgrlar	118
Ground-Squirrel	taakagmnrvflqrlwlrlrlfprvlcretgllalhhsaalvsrtflsvyvarldgrlar	120
Guinea-pig	taakagmnrvflrlllwlrlrlfprvlcretgllalhhsaalvsrtflsvyvarldgrlar	120
Hedgehog	taakasvnrflqrlwlrlrlfprilcretgllalhhsaalvsrtflsvyvarldgrlar	119
Horse	taakagvnrflqrlwlrlrlfprilcretgllalhhsaalvsrtflsvyvarldgrlar	120
Lemur	tgakagmnqvlqrlwlrlrlfprvlcretgllalhhsaalvsrtflsvyvarldgrlar	120
Minke-whale	taakagvnrflqrlwlrlrlfprilcretgllalhhsaalvsrtflsvyvarldgrlar	100
Mole-rat	taaktgmnrvflqrlwlrlrlfprvlcretgllalhhsaalvsrtflsvyvarldgrlar	120
Naked-mole-rat	tatkagmnrvflrlllwlrlrlfprvlcretgllalhhsaalvsrtflsvyvarldgrlar	120
Opposum	-----llrlfprvlcretgllalhhsaalvsrtflsvyvarldgrlar	43
Orca	taakagvnrflqrlwlrlrlfprilcretgllalhhsaalvsrtflsvyvarldgrlar	120
Prairie-vole	taakagmnrvflqrlwlrlrlfprvlcretgllalhhsaalvsrtflsvyvarldgrlar	120
Python	tasppgvnkvlrlllwlrlrlfprvlcretgllalhhsaalvsrtflsvyvarldgrlar	61
Small-eared-galago	tvakagmnrvflqrlwlrlrlfprvlcretgllalhhsaalvsrtflsvyvarldgrlar	120
Sperm-whale	taakagvnrflqrlwlrlrlfprilcretgllalhhsaalvsrtflsvyvarldgrlar	120

Human	civrkdpafgwlqllqwlialpatfvnsairylegqlalsfrsrlvahayrlyfsqqty	180
Chimpanzee	civrkdpafgwlqllqwlialpatfvnsairylegqlalsfrsrlvahayrlyfsqqty	180
Elephant	civrkdpafgwlqllqwlialpatfvnsairylegqlalsfrsrlvahayrlyfsqqty	180
Gorilla	civrkdpafgwlqllqwlialpatfvnsairylegqlalsfrsrlvahayrlyfsqqty	180
Green-Monkey	civrkdpafgwlqllqwlialpatfvnsairylegqlalsfrsrlvahayrlyfsqqty	176
Jerboa	civrkdpafgwlqllqwlialpatfvnsairylegqlalsfrsrlvahayrlyfsqqty	180
Macaque	civrkdpafgwlqllqwlialpatfvnsairylegqlalsfrsrlvahayrlyfsqqty	180
Marmoset	civrkdpafgwlqllqwlialpatfvnsairylegqlalsfrsrlvahayrlyfsqqty	180
Mouse	civrkdpafgwlqllqwlialpatfvnsairylegqlalsfrsrlvahayrlyfsqqty	180
Orangutan	civrkdpafgwlqllqwlialpatfvnsairylegqlalsfrsrlvahayrlyfsqqty	180
Panda	civrkdpafgwlqllqwlialpatfvnsairylegqlalsfrsrlvahayrlyfsqqty	180
Pig	civrkdpafgwlqllqwlialpatfvnsairylegqlalsfrsrlvahayrlyfsqqty	180
Pika	civrkdpafgwlqllqwlialpatfvnsairylegqlalsfrsrlvahayrlyfsqqty	180
Prairie-deer-mouse	civrkdpafgwlqllqwlialpatfvnsairylegqlalsfrsrlvahayrlyfsqqty	180
Rabbit	civrkdpafgwlqllqwlialpatfvnsairylegqlalsfrsrlvahayrlyfsqqty	180
Rat	civrkdpafgwlqllqwlialpatfvnsairylegqlalsfrsrlvahayrlyfsqqty	180
Rhesus-Monkey	civrkdpafgwlqllqwlialpatfvnsairylegqlalsfrsrlvahayrlyfsqqty	180
Seal	civrkdpafgwlqllqwlialpatfvnsairylegqlalsfrsrlvahayrlyfsqqty	180
Squirrel-Monkey	civrkdpafgwlqllqwlialpatfvnsairylegqlalsfrsrlvahayrlyfsqqty	180
Tarsier	civrkdpafgwlqllqwlialpatfvnsairylegqlalsfrsrlvahayrlyfsqqty	180
Tasmanian-devil	-ivrkdpafgwlqllqwlialpatfvnsairylegqlalsfrsrlvahayrlyfsqqty	59
Walrus	civrkdpafgwlqllqwlialpatfvnsairylegqlalsfrsrlvahayrlyfsqqty	180
Water-buffalo	civrkdpafgwlqllqwlialpatfvnsairylegqlalsfrsrlvahayrlyfsqqty	117
White-Rhinoceros	civrkdpafgwlqllqwlialpatfvnsairylegqlalsfrsrlvahayrlyfsqqty	179
Yak	civrkdpafgwlqllqwlialpatfvnsairylegqlalsfrsrlvahayrlyfsqqty	162
Aardvark	civrkdpafgwlqllqwlialpatfvnsairylegqlalsfrsrlvahayrlyfsqqty	174
Alpaca	civrkdpafgwlqllqwlialpatfvnsairylegqlalsfrsrlvahayrlyfsqqty	178
Armadillo	civrkdpafgwlqllqwlialpatfvnsairylegqlalsfrsrlvahayrlyfsqqty	180
Baboon	civrkdpafgwlqllqwlialpatfvnsairylegqlalsfrsrlvahayrlyfsqqty	180
Bat	civrkdpafgwlqllqwlialpatfvnsairylegqlalsfrsrlvahayrlyfsqqty	180
Cat	civrkdpafgwlqllqwlialpatfvnsairylegqlalsfrsrlvahayrlyfsqqty	180
Chinchilla	civrkdpafgwlqllqwlialpatfvnsairylegqlalsfrsrlvahayrlyfsqqty	180
Chinese-hamster	civrkdpafgwlqllqwlialpatfvnsairylegqlalsfrsrlvahayrlyfsqqty	180
Cow	civrkdpafgwlqllqwlialpatfvnsairylegqlalsfrsrlvahayrlyfsqqty	180
Dog	civrkdpafgwlqllqwlialpatfvnsairylegqlalsfrsrlvahayrlyfsqqty	180

Dolphin	civrkdpfagwqllqwlallpatfvnsairylegrlalafrsrlvahayslyfsqqty	113
Ferret	givrkdprafgwqllqwlallpatfinsairflegqlalsfrsrlvahayslyfsqqty	180
Florida-manatee	civrkdpfagwqllqwlallpatfinsairylegqlalsfrsrlvahayslyfsqqty	179
Flying-Fox	civrkdpfagwqllqwlallpatfinsairflegqlalsfrsrlvahayslyfsqqty	180
Golden-hamster	civrkdpfagwqllqwlallpatfinsairylegqlalsfrsrlvahayslyfsqqty	178
Ground-Squirrel	civrkdpfagwqllqwlallpatfinsairylegqlalsfrsrlvahayslyfsqqty	180
Guinea-pig	civrkdpfagwqllqwlallpaxfvnsairylegqlalsfrsrlvahayslyfsqqty	180
Hedgehog	civrkdpfagwqllqwlallpatfinsairylegqlalafrsrlvahayslyfsqqty	179
Horse	civrkdpqafgwqllqwlallpatfinsairylegqlalsfrsrlvahayslyfsqqty	180
Lemur	civrkdpfagwqllqwlallpatfinsairylegqlalsfrsrlvahayslyfsqqty	180
Minke-whale	civrkdpfagwqllqwlallpatfvnsairylegrlalafrsrlvahayslyfsqqty	160
Mole-rat	civrkdpfagwqllqwlallpatfinsairylegqlalafrsrlvahayslyfsqqty	180
Naked-mole-rat	civrkdpfagwqllqwlallpatfvnsairylegqlalsfrsrlvahayslyfsqqty	180
Opposum	civrkdpfagwqllqwlallpatfvnsairylegrlalafrsrlvahayslyfsqqty	103
Orca	civrkdpfagwqllqwlallpatfvnsairylegrlalafrsrlvahayslyfsqqty	180
Prairie-vole	civrkdpfagwqllqwlallpatfinsairylegqlalsfrsrlvahayslyfsqqty	180
Python	civrkdpfagwqllqwlallpatfvnsairylegqlalsfrsrlvahayslyfsqqty	121
Small-eared-galago	civrkdpqafgwqllqwlallpatfinsairylegqlalsfrsrlvahayslyfsqqty	180
Sperm-whale	civrkdpfagwqllqwlallpatfvnsairylegrlalafrsrlvahayslyfsqqty	180

Human	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	240
Chimpanzee	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	240
Elephant	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	240
Gorilla	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	240
Green-Monkey	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	236
Jerboa	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	240
Macaque	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	240
Marmoset	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	240
Mouse	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	240
Orangutan	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	240
Panda	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	240
Pig	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	240
Pika	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	240
Prairie-deer-mouse	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	240
Rabbit	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	240
Rat	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	240
Rhesus-Monkey	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	240
Seal	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	240
Squirrel-Monkey	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	240
Tarsier	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	240
Tasmanian-devil	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	119
Walrus	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	240
Water-buffalo	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	177
White-Rhinoceros	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	239
Yak	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	222
Aardvark	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	234
Alpaca	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	238
Armadillo	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	240
Baboon	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	240
Bat	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	240
Cat	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	240
Chinchilla	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	240
Chinese-hamster	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	240
Cow	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	240
Dog	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	240
Dolphin	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	173
Ferret	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	240
Florida-manatee	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	239
Flying-Fox	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	240
Golden-hamster	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	238
Ground-Squirrel	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	240
Guinea-pig	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	240
Hedgehog	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	239
Horse	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	240
Lemur	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	240
Minke-whale	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	220
Mole-rat	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	240
Naked-mole-rat	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	240
Opposum	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	163
Orca	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	240
Prairie-vole	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	240
Python	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	181
Small-eared-galago	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	240
Sperm-whale	yrvsnmdgrlnrnpdqsltedvvaafaasvahlysnltkplldvavtsytlrraarsrgagt	240

Human	awpsaiaglvvfltanvlfrafspkfgelvaeearrkgelrymhsrvvanseeiafygghe	300
Chimpanzee	awpsaiaglvvfltanvlfrafspkfgelvaeearrkgelrymhsrvvanseeiafygghe	300
Elephant	awpsaiaglvvfltanvlfrafspkfgelvaeearrkgelrymhsrvvanseeiafygghe	300
Gorilla	awpsaiaglvvfltanvlfrafspkfgelvaeearrkgelrymhsrvvanseeiafygghe	300
Green-Monkey	awpsaiaglvvfltanvlfrafspkfgelvaeearrkgelrymhsrvvanseeiafygghe	296
Jerboa	awpsaiaglvvfltanvlfrafspkfgelvaeearrkgelrymhsrvvanseeiafygghe	300
Macaque	awpsaiaglvvfltanvlfrafspkfgelvaeearrkgelrymhsrvvanseeiafygghe	300
Marmoset	awpsaiaglvvfltanvlfrafspkfgelvaeearrkgelrymhsrvvanseeiafygghe	300
Mouse	awpsaiaglvvfltanvlfrafspkfgelvaeearrkgelrymhsrvvanseeiafygghe	300
Orangutan	awpsaiaglvvfltanvlfrafspkfgelvaeearrkgelrymhsrvvanseeiafygghe	300
Panda	awpsaiaglvvfltanvlfrafspkfgelvaeearrkgelrymhsrvvanseeiafygghe	300
Pig	awpsaiaglvvfltanvlfrafspkfgelvaeearrkgelrymhsrvvanseeiafygghe	300
Pika	awpsaiaglvvfltanvlfrafspkfgelvaeearrkgelrymhsrvvanseeiafygghe	300
Prairie-deer-mouse	awpsaiaglvvfltanvlfrafspkfgelvaeearrkgelrymhsrvvanseeiafygghe	300
Rabbit	awpsaiaglvvfltanvlfrafspkfgelvaeearrkgelrymhsrvvanseeiafygghe	300
Rat	awpsaiaglvvfltanvlfrafspkfgelvaeearrkgelrymhsrvvanseeiafygghe	300
Rhesus-Monkey	awpsaiaglvvfltanvlfrafspkfgelvaeearrkgelrymhsrvvanseeiafygghe	300
Seal	awpsaiaglvvfltanvlfrafspkfgelvaeearrkgelrymhsrvvanseeiafygghe	300
Squirrel-Monkey	awpsaiaglvvfltanvlfrafspkfgelvaeearrkgelrymhsrvvanseeiafygghe	300
Tarsier	awpsaiaglvvfltanvlfrafspkfgelvaeearrkgelrymhsrvvanseeiafygghe	300
Tasmanian-devil	awpsaiaglvvfltakvlracspkfgelvaeearrkgelrymhsrvvanseeiafygghe	179
Walrus	awpsaiaglvvfltanvlfrafspkfgelvaeearrkgelrymhsrvvanseeiafygghe	300
Water-buffalo	awpsaiaglvvfltanvlfrafspkfgelvaeearrkgelrymhsrvvanseeiafygghe	237
White-Rhinoceros	awpsaiaglvvfltanvlfrafspkfgelvaeearrkgelrymhsrvvanseeiafygghe	299
Yak	awpsaiaglvvfltanvlfrafspkfgelvaeearrkgelrymhsrvvanseeiafygghe	282
Aardvark	awpsaiaglvvfltanilrafspkfgelvaeearrkgelrymhsrvvanseeiafygghe	294
Alpaca	awpsaiaglvvfltanvlfrafspkfgelvaeearrkgelrymhsrvvanseeiafygghe	298
Armadillo	awpsaiaglavfltanvlfrafspkfgelvaeearrkgelrymhsrvvanseeiafygghe	300
Baboon	awpsaiaglvvfltanvlfrafspkfgelvaeearrkgelrymhsrvvanseeiafygghe	300
Bat	awpsaiaglvvfltanvlfrafspkfgelvaeearrkgelrymhsrvvanseeiafygghe	300
Cat	awpsaiaglvfltanvlfrafspkfgelvaeearrkgelrymhsrvvanseeiafygghe	300
Chinchilla	awpsaiaglvvfltanvlfrafspkfgelvaeearrkgelrymhsrvvanseeiafygghe	300
Chinese-hamster	awpsaiaglvvfltanvlfrafspkfgelvaeearrkgelrymhsrvvanseeiafygghe	300
Cow	awpsaiaglvvfltanvlfrafspkfgelvaeearrkgelrymhsrvvanseeiafygghe	300
Dog	awpsaiaglvvfltanvlfrafspkfgelvaeearrkgelrymhsrvvanseeiafygghe	300
Dolphin	awpsaiaglvvfltanvlfrafspkfgelvaeearrkgelrymhsrvvanseeiafygghe	233
Ferret	awpsaiaglvvfltanvlfrafspkfgelvaeearrkgelrymhsrvvanseeiafygghe	300
Florida-manatee	awplaiaglvvfltanvlrtfispkfgelvaeearrkgelrymhsrvvanseeiafygghe	299
Flying-Fox	awpsaiaglvvfltanvlfrafspkfgelvaeearrkgelrymhsrvvanseeiafygghe	300
Golden-hamster	awpsaiaglvvfltanvlfrafspkfgelvaeearrkgelrymhsrvvanseeiafygghe	298
Ground-Squirrel	awpsaiaglvvfltanvlfrafspkfgelvaeearrkgelrymhsrvvanseeiafygghe	300
Guinea-pig	awpsaiaglvvfltanvlfrafspkfgelvaeearrkgelrymhsrvvanseeiafygghe	300
Hedgehog	awplaiaglvvfltanvlfrafspkfgelvaeearrkgelrymhsrvvanseeiafygghe	299
Horse	awpsaiaglvvfltanvlfrafspkfgelvaeearrkgelrymhsrvvanseeiafygghe	300
Lemur	awpsaiaglvvfltanvlfrafspkfgelvaeearrkgelrymhsrvvanseeiafygghe	300
Minke-whale	awpsaiaglvvfltanvlfrafspkfgelvaeearrkgelrymhsrvvanseeiafygghe	280
Mole-rat	awpsaiaglvvfltanvlfrafspkfgelvaeearrkgelrymhsrvvanseeiafygghe	300
Naked-mole-rat	awpsaiaglvvfltanvlfrafspkfgelvaeearrkgelrymhsrvvanseeiafygghe	300
Opposum	twpsaiaglvvfltakvlracspkfgelvaeearrkgelrymhsrvvanseeiafygghe	223
Orca	awpsaiaglvvfltanvlfrafspkfgelvaeearrkgelrymhsrvvanseeiafygghe	300
Prairie-vole	awpsaiaglvvfltanvlfrafspkfgelvaeearrkgelrymhsrvvanseeiafygghe	300
Python	awpsviaglvvcitakvlracspkfgelvaeearrkgelrymhsrvvanseeiafygghe	241
Small-eared-galago	awpsaiaglvvfltanvlfrafspkfgelvaeearrkgelrymhsrvvanseeiafygghe	300
Sperm-whale	awpsaiaglvvfltanvlfrafspkfgelvaeearrkgelrymhsrvvanseeiafygghe	300

Human	velallqrsyqdasqinlillerlwyvmleqflmkyvwsasgllmvavpiitatgyes	360
Chimpanzee	velallqrsyqdasqinlillerlwyvmleqflmkyvwsasgllmvavpiitatgyes	360
Elephant	velallrhsyqdasqinlillerlwyvmleqflmkyvwsasgllmvavpiitatgyes	360
Gorilla	velallqrsyqdasqinlillerlwyvmleqflmkyvwsasgllmvavpiitatgyes	360
Green-Monkey	velallqhsyqdasqinlillerlwyvmleqflmkyvwsasgllmvavpiitatgyes	356
Jerboa	velallqhsyrdasqinlillerlwyvmleqflmkyvwsasgllmvavpiitatgyes	360
Macaque	velallqhsyqdasqinlillerlwyvmleqflmkyvwsasgllmvavpiitatgyset	360
Marmoset	velallqhsyqdasqinlillerlwyvmleqflmkyvwsasgllmvavpiitatgyes	360
Mouse	velallqhsyqdasqinlillerlwyvmleqflmkyvwsasgllmvavpiitatgyaes	360
Orangutan	velallqrsyqdasqinlillerlwyvmleqflmkyvwsasgllmvavpiitatgyes	360
Panda	velallqhsyqdasqinlillerlwyimleqflmkyvwsasgllmvavpiitatgyes	360
Pig	velallqhsyqdasqinlillerlwyvmleqflmkyvwsasgllmvavpiitatgyes	360
Pika	velallrrsyqdasqihlillerlwyvmleqflmkyvwsasgllmvavpiitatgyes	360
Prairie-deer-mouse	velallqhsyqdasqinlillerlwyvmleqflmkyvwsasgllmvavpiitatgyaes	360
Rabbit	velallqrsyqdasqihlillerlwyvmleqflmkyvwsasgllmvavpiitatgyes	360
Rat	velallqhsyqdasqinlillerlwyvmleqflmkyvwsasgllmvavpiitatgyaes	360
Rhesus-Monkey	velallqhsyqdasqinlillerlwyvmleqflmkyvwsasgllmvavpiitatgyset	360
Seal	velallqhsyqdasqinlillerlwyimleqflmkyvwsasgllmvavpiitatgyes	360
Squirrel-Monkey	velallqhsyqdasqinlillerlwyvmleqflmkyvwsasgllmvavpiitatgyes	360
Tarsier	velallqhsyqdasqinlillerlwyvmleqflmkyvwsasgllmvavpiitatgyes	360

Tasmanian-devil	velallqhsyqdasqinlillerlwyvmleqflmkyvwsasglmvavpiitavgys	239
Walrus	velallqhsyqdasqinlillerlwyimleqflmkyvwsasgllmvavpiitatgys	360
Water-buffalo	velallqhsyqdasqinlillerlwyvmleqflmkyvwsasgllmvavpiitatgys	297
White-Rhinoceros	velallqhsyqdasqinlillerlwyvmleqflmkyvwsasgllmvavpiitatgys	359
Yak	velallqhsyqdasqinlillerlwyvmleqflmkyvwsasgllmvavpiitatgys	342
Aardvark	velallrlsyqdasqinlillerlwyvmleqflmkyvwsasgllmvavpiitatgys	354
Alpaca	velallqhsyqdasqinlillerlwyvmleqflmkyvwsasglmvavpiitatgys	358
Armadillo	velallqqsyrldasqinlillerlwyvmleqflmkyvwsasglmvavpiitatgfs	360
Baboon	velallqhsyqdasqinlillerlwyvmleqflmkyvwsasgllmvavpiitatgys	360
Bat	velallqhsykalasqinlillerlwyvmleqflmkyvwsasgllmvavpiitatgfs	360
Cat	velallrhsyqdasqinlillerlwyimleqflmkyvwsasgllmvavpiitatgys	360
Chinchilla	velallrdcyralaasqinlillerlwyvmleqflmkyvwsasgllmvavpiitatgys	360
Chinese-hamster	velallrqsyqdasqinlillerlwyvmleqflmkyvwsasgllmvavpiitatgys	360
Cow	velallqhsyqdasqinlillerlwyvmleqflmkyvwsasgllmvavpiitatgys	360
Dog	velallqhsyqdasqinlillerlwyimleqflmkyvwsasgllmvavpiitatgys	360
Dolphin	velallqhsyqdasqinlillerlwyvmleqflmkyvwsasgllmvavpiitatgha	293
Ferret	velallqqsyqdasqihlillerlwyitleqflmkyvwsasgllmvavpiitatgys	360
Florida-manatee	velallqhsyeelasqinlillerlwyvmleqflmkyvwsasgllmvavpiitatgys	359
Flying-Fox	velallqhsykalasqinlillerlwyvmleqflmkyvwsasgllmvavpiitatgys	360
Golden-hamster	velallqqsyqdasqinlillerlwyvmleqflmkyvwsasgllmvavpiitatgys	358
Ground-Squirrel	velaqlqhsyqdasqinlillerlwyvmleqflmkyvwsasgllmvavpiitatgys	360
Guinea-pig	velallrdcyralaasqinlillerlwyvmleqflmkyvwsasgllmvavpiitatgys	360
Hedgehog	veltlqlsykdashinlillerlwyvmleqflmkyvwsasgllmvavpiitatgys	359
Horse	velallqhsyqdasqinlillerlwyvmleqflmkyvwsasgllmvavpiitatgys	360
Lemur	velallqhsyqdasqinlillerlwyvmleqflmkyvwsasgllmvavpiitatgys	360
Minke-whale	velallqhsyqdasqinlillerlwyvmleqflmkyvwsasgllmvavpiitatgys	340
Mole-rat	velallqhsyrdasqinlillerlwyimleqflmkyvwsasgllmvavpiitatgys	360
Naked-mole-rat	velallqdcyralaasqinlillerlwyvmleqflmkyvwsasgllmvavpiitatgys	360
Opposum	velallrhsyqdasqinlillerlwyvmleqflmkyvwsasglmvavpiitatgys	283
Orca	velallqhsyqdasqinlillerlwyvmleqflmkyvwsasgllmvavpiitatgha	360
Prairie-vole	velallqhsyqdasqinlillerlwyvmleqflmkyvwsasgllmvavpiitatgys	360
Python	velslrrhcyhelasqinlillerlwyvmleqflmkyvwsaaglmvavpiitatgys	301
Small-eared-galago	velallqhsyqdasqinlillerlwyvmleqflmkyvwsasgllmvavpiitatgys	360
Sperm-whale	velallqhsyqdasqinlillerlwyvmleqflmkyvwsasgllmvavpiitatgys	360

Human	daeavkkaalekkeeeelvserteaftiarnlltaaadaierimssykevtelagytarvh	420
Chimpanzee	daeavkkaalekkeeeelvserteaftiarnlltaaadaierimssykevtelagytarvh	420
Elephant	dseavrkaalekreeeelvserteaftiarnlltaaadaierimssykevtelagytarvh	420
Gorilla	daeavkkaalekkeeeelvserteaftiarnlltaaadaierimssykevtelagytarvh	420
Green-Monkey	aaeavkkaalekkeeeelvserteaftiarnlltaaadaierimssykevtelagytaqv	416
Jerboa	dseamkkaalekkeeeelvserteaftiarnlltaaadaterimssykevtelagytarvh	420
Macaque	daeavkkaalekkeeeelvserteaftiarnlltaaadaierimssykevtelagytarvh	420
Marmoset	daeavrksalekkeeeelvserteaftiarnlltaaadaterimssykevtelagytarvh	420
Mouse	dseamkkaalekkeeeelvserteaftiarnlltaaadaterimssykevtelagytarvy	420
Orangutan	daeavkkaalekkeeeelvserteaftiarnlltaaadaierimssykevtelagytarvh	420
Panda	dseavkkaalekkeeeelvserteaftiarnlltaaadaierimssykevtelagytarvh	420
Pig	dseavkkaalekkeeeelvserteaftiarnlltaaadaierimssykevtelagytarvh	420
Pika	dsedvkaamekkeeeelvserteaftiarnlltaaadaierimssykevtelagytarvh	420
Prairie-deer-mouse	dseamkkaalekkeeeelvserteaftiarnlltaaadaterimssykevtelagytarvy	420
Rabbit	dseavkkaalakkeeeelvserteaftiarnlltaaadaierimssykevtelagytarvh	420
Rat	dseamkkaalekkeeeelvserteaftiarnlltaaadaterimssykevtelagytarvy	420
Rhesus-Monkey	daeavkkaalekkeeeelvserteaftiarnlltaaadaierimssykevtelagytarvh	420
Seal	dleavkkaalekkeeeelvserteaftiarnlltaaadaierimssykevtelagytarvy	420
Squirrel-Monkey	daeavrksalekkeeeelvserteaftiarnlltaaadaterimssykevtelagytarvh	420
Tarsier	dseavkkaalekkeeeelvserteaftiarnlltaaadaierimssykevtelagytarvh	420
Tasmanian-devil	dseavkkaalekkeeeelvserteaftiarnlltaaadaierimssykevtelagytarvy	299
Walrus	dseavkkaalekkeeeelvserteaftiarnlltaaadaierimssykevtelagytarvh	420
Water-buffalo	dsetvkkaaamkegelvserteaftiarnlltaaadaierimssykevtelagytarvy	357
White-Rhinoceros	aseamkkaalekkeeeelvserteaftiarnlltaaadaierimssykevtelagytarvh	419
Yak	dsetvkkaaamkegelvserteaftiarnlltaaadaierimssykevtelagytarvy	402
Aardvark	dseavkkaalekkeeeelvserteaftiarnlltaaadaierimssykevtelagytarvh	414
Alpaca	dpevvkkaalekkeeeelvserteaftiarnlltaaadaierimssykevtelagytarvh	418
Armadillo	dpeavkqaalekkeeeelvserteaftiarslltaaadaierimssykevtelagytarvh	420
Baboon	daeavkkaalekkeeeelvserteaftiarnlltaaadaierimssykevtelagytarvh	420
Bat	dpeavkkaalamkeeeelvserteaftiarnlltaaadaierimssykevtelagytarvh	420
Cat	dseavkkaalekkeeeelvserteaftiarnlltaaadaierimssykevtelagytarvh	420
Chinchilla	dseatkraalekkeeeelvserteaftiarnlltaaadaierimssykevtelagytarvh	420
Chinese-hamster	dsetmkkaalekkeeeelvserteaftiarnlltaaadaterimssykevtelagytarvy	420
Cow	dsetvkkaaamkegelvserteaftiarnlltaaadaierimssykevtelagytarvy	420
Dog	dseavkkaalekkeeeelvserteaftiarnlltaaadaierimssykevtelagytarvh	420
Dolphin	dseavkkaalekkeeeelvserteaftiarnlltaaadaierimssykevtelagytarvh	353
Ferret	dpeavkkaalekkeeeelvserteaftiarnlltaaadaierimssykevtelagytarvh	420
Florida-manatee	dseavkkaalekkeeeelvserteaftiarnlltaaadaierimssykevtelagytarvh	419
Flying-Fox	dteavkkaalekkeeeelvserteaftiarnlltaaadaierimssykevtelagytarvh	420
Golden-hamster	dseamkkaalekkeeeelvserteaftiarnlltaaadaterimssykevtelagytarvy	418
Ground-Squirrel	dsedmkkaalekkeeeelvserteaftiarnlltaaadaterimssykevtelagytarvh	418

Guinea-pig	dseaaqraalemqeeelvserteaftiarnlltaaadaterimssykevtelagytarvy	420
Hedgehog	eeavkkaamenreeelvserteaftiarnlltaadaierimssykevtelagytarvh	419
Horse	dsealkkaasemreeelvserteaftiarnlltaadaierimssykevtelagytarvh	420
Lemur	dseamkkavlekrdeelvserteaftiarnlltaadaierimssykevtelagytarvh	420
Minke-whale	dsevakkaalqtrgeelvserteaftvarnlltaadaiervmasykevtelagytarvh	400
Mole-rat	dseamkkaalemkeeelvserteaftiarnlltaaadaterimssykevtelagytarvy	420
Naked-mole-rat	dseakraalemreeelvserteaftiarnlltaaadaterimssykevtelagytarvh	420
Opposum	dseavkkaalemkeedlvserteaftiarnlltaadaiervmssykeitelagytarvf	343
Orca	dsevakkaaleareelvserteaftiarnlltaadaiervmssykevtelagytarvh	420
Prairie-vole	dseamkkaalemkeeelvserteaftiarnlltaaadaterimssykevtelagytarvy	420
Python	dseavkqaalemekewislrteafttarslltaaadatervissykeatelagytarvy	361
Small-eared-galago	dseatkkaalekreelvserteaftiarnlltaadaierimssykevtelagytarvh	420
Sperm-whale	dsevakkaaleareelvserteaftiarnlltaadaiervmssykevtelagytarvh	420

Human	emfqvfedvqrchfkrpreledaqagsgtigrsgvrvegplkirgqvvdveggiicenip	480
Chimpanzee	emfqvfedvhrchfkrpreledaqagsgtigrsgvrvegplkirgqvvdveggiicenip	480
Elephant	emfqvfkdvqhchfkrpgepedapvgpgavvssgvhvegplkirgqvvdvehgiicenip	480
Gorilla	emfqvfedvqrchfkrpreledaqagsgtigrsgvrvegplkirgqvvdveggiicenip	480
Green-Monkey	emfqvfedvqrchfkrpgeledaqagsgtigrsgvrvegplkirgqvvdveggiicenip	476
Jerboa	emfqvfedvqhcrfkrpgefedahgtgalvrsgvrvegplkiqqqvvdveggiicenip	480
Macaque	emfqvfedvqrchfkrpreledaqagsgtigrsgvrvegplkirgqvvdveggiicenip	480
Marmoset	emfqvfadvqrchfkrpgeledtqpssgtigragvrvegplkiqqqvvdveggiicenip	480
Mouse	emfqvfedvqrchfkrpreledaqagsgtigrsgvrvegplkiqqqvvdveggiicenip	480
Orangutan	emfqvfedvqrchfkrpreledaqagsgtigrsgvrvegplkiqqqvvdveggiicenip	480
Panda	emfqvfedvqhcrfkrpgeledaqagpgavarsgvrvegllqirgqvvdveggiicenip	480
Pig	emfqvfedvqhcrfkrpgepedaqagsgavvrsgvrvegplqirgqvvdvehgivicenip	480
Pika	emfqvfedvqrchfkrpreledaqagsgtigrsgvrvegplkirgqvvdveggiicenip	480
Prairie-deer-mouse	emfqvfedvqhcrfkrktgdleaaqarpgamvksgrvegplkiqqqvvdveggiicenip	480
Rabbit	emfqvfedvqhcrfkrpgepedaqigsgtvarsgrvdtplkirgqvvdveggiicenip	480
Rat	emfqvfedvqhcrfkrktgdleaaqagpgsmvhsghiegplkiqqqvvdveggiicenip	480
Rhesus-Monkey	emfqvfedvqrchfkrpreledaqagsgtigrsgvrvegplkirgqvvdveggiicenip	480
Seal	emfqvfedvqhchfkrpgepedpqaagpgavarsgvrvegplqirgqvvdveggiicenip	480
Squirrel-Monkey	emfqvfadvqrchfkrpgeledtqpssgtigragvrvegplkiqqqvvdveggiicenip	480
Tarsier	emfqvfedvqhcrfkrpgepedaqagsgamarsgvrlegslkirgqvvdveggiicenip	480
Tasmanian-devil	emfqvfedvqrgsfkrpgeledaqvgcgtvtrsgvrvdtplkirgqvvdveggiicenip	359
Walrus	emfqvfedvqhchfkrpgepedpqaagpgavarsgvrvegplqirgqvvdveggiicenip	480
Water-buffalo	emfqvfedvqqrchfkrpgepedahgtsgaimrsgvrvegplqirgqvvdveggivicenip	417
White-Rhinoceros	emfqvfddvqhcrfkrpgepedtqvagavvkpgvrvegplqirgqvvdveggiicenip	479
Yak	emfqvfedvqqrchfkrpgeledtqagsgaimrsgirmegplqirgqvvdveggiicenip	462
Aardvark	emfqvfedvqhcrfkrpgepedapgdsgavvrhgvrvegplkirgqvvdveggiicenip	474
Alpaca	emfqvfedvqhcrfkrpgepedaqagsgavvrsgtrvegplqirgqvvdveggivicenip	478
Armadillo	emfqvfkdvqhchfkrpgelekaqaggagavvrpgvvhmegpprigrqvvdveggiicenip	480
Baboon	emfqvfedvqrchfkrpgeledtqagsgaimrsgtrvegplkirgqvvdveggiicenip	480
Bat	emfqvfedvqhcrfkrpgepedaqagagavvrsgvrvegplqirgqvvdveggivcdnip	480
Cat	emfqvfedvhrchfkrpgeledtqagagavarsgvrvegplqirgqvvdveggiicenip	480
Chinchilla	emfqvfedvqhcrfkrpgeledtqagagavarsgvrmegplriqqqvvdveggiicenip	480
Chinese-hamster	emfqvfedvqhchfkrktgdleaaqakpgamvqsgihvegplkiqqqvvdveggiicenip	480
Cow	emfqvfedvqqrchfkrpgepedahgtsgaimrsgirmegplqirgqvvdveggivicenip	480
Dog	emfqvfedvqhcrfkrpgeledtqagpgavarsgvhvegplqirgqvvdveggiicenip	480
Dolphin	emfqvfedvqhcrfkrpgepedtqagsgavvrsgvrvegslqirgqvvdvergivicenip	413
Ferret	emfqvfedvqhcrfkrpgeledtqagpgavakpgvriegplqirgqvvdveggiicenip	480
Florida-manatee	emfqvfedvqhchfkrpgepedapvgpgavvsgvrvegplkirgqvvdveggitcenip	479
Flying-Fox	emfqvfeevqhcrfkrpgepedaqagsgavvrsgvrvegplkiqqqvvdveggiicdnip	480
Golden-hamster	emfqvfedvqhchfkrktgdleetqakpgatvqsgirvegplkiqqqvvdveggiicenip	478
Ground-Squirrel	emfqvfedvqhcrfkrpgeledtqagcgtmvrsgvrvegplkiqqqvvdveggiicenip	478
Guinea-pig	emfqvfedvqhcrfkrpgepedtqagtavvrsgirveaplrlirgqvvdveggiicenip	480
Hedgehog	emfqvfddvqhcrfkrpgeledssvrpgavmrpgvrvegplkilgqvvdveggiicenip	479
Horse	emfqvfedvqhcrfkrpgepedtqagpgamvksgrvegplqirgrvvdveggivicenip	480
Lemur	emfqvfedvqhcrfkrpgepevaqvggramvrsgvrvegplkirgqvvdveggiicenip	480
Minke-whale	emfqvfedvhrchfkrprepedtqagsgavvrsgvrvegslqirgqvvdveggivcedip	460
Mole-rat	emfqvfedvqhcrfkrpgdpeaahaasgvmvrsgvrriegplkiqqqvvdvehgiicenip	480
Naked-mole-rat	emfqvfedvqhchfkrpgepedaqtgagavvrsgvhllegplrlirgqvvdveggiicenip	480
Opposum	emfqvfedvqggsfkrpgeledsp--ngmlvkhgvrmegplkirgqvvdveggiicenip	401
Orca	emfqvfedvqhcrfkrpgepedtqagsgavvrsgvrvegslqirgqvvdveggivicenip	480
Prairie-vole	emfqvfedvqhcrfkrktgdleaaqarpgamvrsgvrvegplkiqqqvvdveggiicenip	480
Python	emfqvfedvkcenfrpgeledtqagvrmkhgvrvegplqiagghvidvdhgiicenip	421
Small-eared-galago	emfqvfedvqhchfkrpgeledaqagsgamvrsgvvhmegplkiqqqvvdveggiicenip	480
Sperm-whale	emfqvfedvhrchfkrpgepedaqagsgavvrsgvrvegslqirgqvvdveggivicenip	480

Human	ivtpsgevvvaslnirveegmhllitgpngcgksslfrilgglwptyyggvlykpppqrmf	540
Chimpanzee	ivtpsgevvvaslnirveegmhllitgpngcgksslfrilgglwptyyggvlykpppqrmf	540
Elephant	iiptpsgevvvaslnirveegmhllitgpngcgksslfrilgglwptyyggvlykpppqrmf	540
Gorilla	ivtpsgevvvaslnirveegmhllitgpngcgksslfrilgglwptyyggvlykpppqrmf	540
Green-Monkey	iiptpsgevvvaslnirveegmhllitgpngcgksslfrilgglwptyyggvlykpppqrmf	536
Jerboa	iiptpsgevvvaslnirveegmhllitgpngcgksslfrilgglwptyyggvlykpppqrmf	540

Macaque	iitpsgevvvaslnirveegmhllitgpngcgksslfrilgglwptyyggvlykpppqrmf	540
Marmoset	iitpagevvvaslnirveegmhllitgpngcgksslfrilgglwptyyggvlykpppqrmf	540
Mouse	iitptgevvvaslnirveegmhllitgpngcgksslfrilgglwptyyggvlykpppqrmf	540
Orangutan	iitpsgevvvaslnirveegmhllitgpngcgksslfrilgglwptyyggvlykpppqrmf	540
Panda	iitptgevvvaslnirveegmhllitgpngcgksslfrilgglwptyyggvlykppprmf	540
Pig	iitpagevvvaslnirveegmhllitgpngcgksslfrilgglwptyyggvlykppperrmf	540
Pika	ivtpagevvvaslsitveegmhllitgpngcgksslfrilgglwptyyggvlykpppqrmf	540
Prairie-deer-mouse	iitptgevvvaslnirveegmhllitgpngcgksslfrilgglwptyyggvlykpppqrmf	540
Rabbit	iitptgevvvaslnirveegmhllitgpngcgksslfrilgglwptyyggvlykpppqrmf	540
Rat	iitptgevvvaslnirveegmhllitgpngcgksslfrilgglwptyyggvlykpppqrmf	540
Rhesus-Monkey	iitpsgevvvaslnirveegmhllitgpngcgksslfrilgglwptyyggvlykpppqrmf	540
Seal	iitptgevvvaslnirveegmhllitgpngcgksslfrilgglwptyyggvlykpppqrmf	540
Squirrel-Monkey	iitptgevvvaslnirveegmhllitgpngcgksslfrilgglwptyyggvlykpppqrmf	540
Tarsier	iitpagevvvaslnirveegmhllitgpngcgksslfrilgglwptyyggvlykpppqrmf	540
Tasmanian-devil	iitptgdivvanlnirveegmhllitgpngcgksslfrilgglwpayagvlykpppqrmf	419
Walrus	iitptgevvvaslnirveegmhllitgpngcgksslfrilgglwptyyggvlykpppqrmf	540
Water-buffalo	iitptgevvvaslnirveegmhllitgpngcgksslfrilgglwptyyggvlykpppqrmf	477
White-Rhinoceros	iitptgevvvaslnirveegmhllitgpngcgksslfrilgglwptyyggvlykplpqrmf	539
Yak	iitptgevvvaslnirveegmhllitgpngcgksslfrilgglwptyyggvlykpppqrmf	522
Aardvark	iitptgevvvaslnirveegmhllitgpngcgksslfrilgglwpayyggvlykpppqrmf	534
Alpaca	iitptgevvvaslnikveegmhllitgpngcgksslfrvlgglwptyyggvlykpppqrmf	538
Armadillo	iitpagevvvaslnirveegmhllitgpngcgksslfrilgglwpayyggvlykpppqrmf	540
Baboon	iitpsgevvvaslnirveegmhllitgpngcgksslfrilgglwptyyggvlykpppqrmf	540
Bat	iitptgevvvaslnirveegmhllitgpngcgksslfrilgglwptyyggvlykpppqrmf	540
Cat	iitptgevvvaslnirveegmhllitgpngcgksslfrilgglwpayyggvlykpppqrmf	540
Chinchilla	iitptgevvvaslnirveegmhllitgpngcgksslfrilgglwptyyggvlykpppqrmf	540
Chinese-hamster	iitptgevvvaslnirveegmhllitgpngcgksslfrilgglwptyyggvlykpppqrmf	540
Cow	iitptgevvvaslnirveegmhllitgpngcgksslfrilgglwptyyggvlykpppqrmf	540
Dog	iitptgevvvaslnirveegmhllitgpngcgksslfrilgglwptyyggvlykpppqrmf	540
Dolphin	ivtptgevvvaslnirveegmhllitgpngcgksslfrilgglwptyyggvlykpppqrmf	473
Ferret	iitptgevvvaslnirveegmhllitgpngcgksslfrilgglwptyyggvlykpppqrmf	540
Florida-manatee	iitptgevvvaslnirveegmhllitgpngcgksslfrilgglwpayyggvlykpppqrmf	539
Flying-Fox	iitptgevvvaslnirveegmhllitgpngcgksslfrilgglwptyyggvlykpppqrmf	540
Golden-hamster	iitptgevvvaslnirveegmhllitgpngcgksslfrilgglwptyyggvlykpppqrmf	538
Ground-Squirrel	iitptgevvvaslnirveegmhllitgpngcgksslfrilgglwptyyggvlykpppqrmf	538
Guinea-pig	iitptgevvvaslnirveegmhllitgpngcgksslfrilgglwptyyggvlykpppqrmf	540
Hedgehog	iitptgevvvaslnirveegmhllitgpngcgksslfrilgglwptyyggvlykpppqrmf	539
Horse	iitpagevvvaslnirveegmhllitgpngcgksslfrilgglwptyyggvlykpppqrmf	540
Lemur	vvtpagevvvaslnirveegmhllitgpngcgksslfrilgglwptyyggvlykpppqrmf	540
Minke-whale	ivtpagevvvaslnirveegthllitgpngcgksslfrilgglwptyyggvlykpppqrmf	520
Mole-rat	iitptgevvvaslnirveegmhllitgpngcgksslfrilgglwptyyggvlykpppqrmf	540
Naked-mole-rat	iitptgevvvaslnirveegmhllitgpngcgksslfrilgglwptyyggvlykpppqrmf	540
Opposum	iitptgdivvanlnirveegmhllitgpngcgksslfrilgglwpayagvlykpppqrmf	461
Orca	ivtptgevvvaslnirveegmhllitgpngcgksslfrilgglwptyyggvlykpppqrmf	540
Prairie-vole	iitptgevvvaslnirveegmhllitgpngcgksslfrilgglwptyyggvlykpppqrmf	540
Python	iitptgdivvtslnirvdegmhllitgpngcgksslfrilgglwptyygtlykppphrmf	481
Small-eared-galago	iitptgevvvaslnmrveegmhllitgpngcgksslfrvlgglwptyyggvlykpppqrmf	540
Sperm-whale	vvtptgevvvaslnirveegmhllitgpngcgksslfrilgglwptyyggvlykpppqrmf	540

Human	yipqrpymsvgsldrdqviypdsvedmqrkgyseqdleaildvhlhhlqreggwteamcd	600
Chimpanzee	yipqrpymsvgsldrdqviypdsvedmqrkgyseqdleaildvhlhhlqreggwteamcd	600
Elephant	yipcrpymsvgsldrdqviypdsvedmqrkghseqhleaaildivnlqhlqreggwteamcd	600
Gorilla	yipqrpymsvgsldrdqviypdsvedmqrkgyseqdleaildvhlhhlqreggwteamcd	600
Green-Monkey	yipqrpymsvgsldrdqviypdsvedmrrkgyseqdleaildivhlhhlqreggwteamcd	596
Jerboa	yipqrpymsvgsldrdqviypdsvedmrrkgyseqdleaildivhlhhlqreggwteamcd	600
Macaque	yipqrpymsvgsldrdqviypdsvedmrrkgyseqdleaildivhlhhlqreggwteamcd	600
Marmoset	yipqrpymsvgsldrdqviypdsvedmrrkgyseqdleaildivhlhhlqreggwteamcd	600
Mouse	yipqrpymsvgsldrdqviypdsvedmrrkgyseqdleaildivhlhhlqreggwteamcd	600
Orangutan	yipqrpymsvgsldrdqviypdsvedmrrkgyseqdleaildvhlhhlqreggwteamcd	600
Panda	yipqrpymsvgsldrdqviypdsvedmrrkgyseqhleaildivhlhhlqreggwteamcd	600
Pig	yipqrpymvgsldrdqviypdsvedmrrkgyseqhleaildivhlhhlqreggwteamcd	600
Pika	yipqrpymsvgsldrdqviypdsvedmrrkgyseqhleaildivhlhhlqreggwteamcd	600
Prairie-deer-mouse	yipqrpymsvgsldrdqviypdsvedmrrkgyseqhleaildvhlhhlqreggwteamcd	600
Rabbit	yipqrpymsvgsldrdqviypdsvedmrrkgyseqhleaildvhlhhlqreggwteamcd	600
Rat	yipqrpymsvgsldrdqviypdsvedmrrkgyseqhleaildivhlhhlqreggwteamcd	600
Rhesus-Monkey	yipqrpymsvgsldrdqviypdsvedmrrkgyseqdleaildivhlhhlqreggwteamcd	600
Seal	yipqrpymsvgsldrdqviypdsvedmrrkgyseqhleaildivhlhhlqreggwteamcd	600
Squirrel-Monkey	yipqrpymsvgsldrdqviypdsvedmrrkgyseqdleaildivhlhhlqreggwteamcd	600
Tarsier	yipqrpymsvgsldrdqviypdsvedmrrkgyseqhleaildivhlhhlqreggwteamcd	600
Tasmanian-devil	yipqrpymsvgsldrdqviypdtiedmrrkgyseqdhyleaildivnlhhlqreggwteamcd	479
Walrus	yipqrpymsvgsldrdqviypdsvedmrrkgyseqhleaildivhlhhlqreggwteamcd	600
Water-buffalo	yipqrpymsvgsldrdqviypdsvedmrrkgyseqhleaildivhlhhlqreggwteamcd	537
White-Rhinoceros	yipqrpymsvgsldrdqviypdsvedmrrkgyseqhleaildivhlhhlqreggwteamcd	599
Yak	yipqrpymsvgsldrdqviypdsvedmrrkgyseqhleaildivhlhhlqreggwteamcd	582
Aardvark	yvpqrpymslgtlreqviypdsvedmrrkgsfdrdleaildivhlhhlqreggwteamcd	594
Alpaca	yipqrpymsvgsfrdqviypdsvedmrrkgyseqhleaildivhlhhlqreggwteamcd	598

Armadillo	yipqrpypmvgslrdqviypdtaedmrrkgyseqhleaailgivhlhhlqreggweavcd	600
Baboon	yipqrpymsvgslrdqviypdsvedmrrkgyseqdleaildivhlhhlqreggweamcd	600
Bat	yipqrpymsvgslrdqviypdsvedmrrkgyseqhleaaildivhlhhlqreggweavcd	600
Cat	yipqrpymsvgslrdqviypdsvedmrrkgyseqhleaaildivhlhhlqreggweavcd	600
Chinchilla	yipqrpymsvgslrdqviypdsvedmrrkgyseqqleaildivhlhhlqreggwealcd	600
Chinese-hamster	yipqrpymsvgslrdqviypdsaedmrrkgyseqqleailgivhlrhilqreggweavcd	600
Cow	yipqrpymsvgslrdqviypdsvedmrrkgyseehlegildivhlhhlqreggweavcd	600
Dog	yipqrpymsvgslrdqviypdsvedmrrkgyseqhleaaildivhlhhlqreggweavcd	600
Dolphin	yvpqrpymsvgslrdqviypdsvedmrrkgyfseqhleaaildivhlhhlqreggweavcd	533
Ferret	yipqrpypmvgslrdqviypdsvedmrrkgyserhleaaildivhlhhlqreggweavcd	600
Florida-manatee	yipqrpymsvgslrdqviypdsvedmrrkgyseqhleaaildivhlhhlqreggweavcd	599
Flying-Fox	yipqrpymsvgslrdqviypdsvedmrrkgyseqhleaaildivhlhhlqreggweavcd	600
Golden-hamster	yipqrpymsvgslrdqviypdsaedmrrkgyseqqleailsivhlrhilqreggweavcd	598
Ground-Squirrel	yipqrpymsvgslrdqviypdsvedmrrkgyseqqleaildivhlhhlqreggweaicd	598
Guinea-pig	yipqrpymsvgslrdqviypdsvedmrrkgyseqqleaildivhlhhlqreggwealcd	600
Hedgehog	yipqrpymsvgslrdqviypdsvedmrrkgyseqhleaaildivhlhhlqreggweavcd	599
Horse	yipqrpymsvgslrdqviypdsvedmrrkgyseqhleaaildivhlhhlqreggweatcd	600
Lemur	yipqrpypmvgslrdqviypdsvadmrrkgysehhleaaildivhlhhlqreggweavcd	600
Minke-whale	yvsrrpymsvgslrdqviypdsvedmrrkgyfseqhleaaildivhlhhlqreggweavcd	580
Mole-rat	yipqrpymsvgslrdqviypdsvedmrrkgyseqqleaildivhlhhlqreggweavcd	600
Naked-mole-rat	yipqrpymsvgslrdqviypdsvedmrrkgyseqqletildivhlhhlqreggwealcd	600
Opposum	yipqrpymsvgslrdqviypdtvedmrrkgydsyleaildivnlhivqreggweascd	521
Orca	yvpqrpymsvgslrdqviypdsvedmrrkgyfseqhleaaildivhlhhlqreggweavcd	600
Prairie-vole	yipqrpymsvgslrdqviypdsaedmrrkgyseqqleaildivhlrhilqreggweavcd	600
Python	yipqrpymsvgtlrdqviypdtfdkdmrrkghtdsdlerildivnlnyivqreggweavsd	541
Small-eared-galago	yipqrpymsvgslrdqviypdsvedmrrkgyserhleaaildivhlhhlqreggweamcd	600
Sperm-whale	yvpqrpymsvgslrdqviypdsvedmrrkgyfseqhleaaildivhlhhlqreggweavcd	600

Human	wkdvlsggekqrigmarmfyhrpkyalldectsavsidsvegkifqaakdagiallsithr	660
Chimpanzee	wkdvlsggekqrigmarmfyhrpkyalldectsavsidsvegkifqaakdagiallsithr	660
Elephant	wkdvlsggekqrigmarmfyhrpkyalldectsavsidsvegkifqaakdagiallsithr	660
Gorilla	wkdvlpggekqrigmarmfyhrpkyalldectsavsidsvegkifqaakdagiallsithr	660
Green-Monkey	wkdvlsggekqrigmarmfyhrpkyalldectsavsidsvegkifqaakdagiallsithr	656
Jerboa	wkdvlsggekqrigmarmfyhrpkyalldectsavsidsvegkifqaakdagiallsithr	660
Macaque	wkdvlsggekqrigmarmfyhrpkyalldectsavsidsvegkifqaakdagiallsithr	660
Marmoset	wkdvlsggekqrigmarmfyhrpkyalldectsavsidsvegkifqaakdtgiallsithr	660
Mouse	wkdvlsggekqrigmarmfyhrpkyalldectsavsidsvegkifqaakdagiallsithr	660
Orangutan	wkdvlsggekqrigmarmfyhrpkyalldectsavsidsvegkifqaakdagiallsithr	660
Panda	wkdvlsggekqrigmarmfyhrpkyalldectsavsidsvegkifqaakdagiallsithr	660
Pig	wkdvlsggekqrvgmarmfyhrpkyalldectsavsidsvegkifqaakdagiallsithr	660
Pika	wkdvlsggekqrigmarmfyhrpkyalldectsavsidsvegkifqaakdagiallsithr	660
Prairie-deer-mouse	wkdvlsggekqrigmarmfyhrpkyalldectsavsidsvegkifqaakdagiallsithr	660
Rabbit	wkdvlsggekqrigmarmfyhrpkyalldectsavsidsvegkifqaakdagiallsithr	660
Rat	wkdvlsggekqrigmarmfyhrpkyalldectsavsidsvegkifqaakdagisllsithr	660
Rhesus-Monkey	wkdvlsggekqrigmarmfyhrpkyalldectsavsidsvegkifqaakdagiallsithr	660
Seal	wkdvlsggekqrigmarmfyhrpkyalldectsavsidsvegkifqaakdagiallsithr	660
Squirrel-Monkey	wkdvlsggekqrigmarmfyhrpkyalldectsavsidsvegkifqaakdagiallsithr	660
Tarsier	wkdvlsggekqrigmarmfyhrpkyalldectsavsidsvegkifqaakdagiallsithr	660
Tasmanian-devil	wkdvlsggekqrigmarmfyhrpkyalldectsavsidsvegkifqaakdagiallsithr	539
Walrus	wkdvlsggekqrigmarmfyhrpkyalldectsavsidsvegkifqaakdagiallsithr	660
Water-buffalo	wkdvlsggekqrvgmarmfyhrpkyalldectsavsidsvegkifqaakdagiallsithr	597
White-Rhinoceros	wkdvlsggekqrigmarmfyhrpkyalldectsavsidsvegkifqaakdagiallsithr	659
Yak	wkdvlsggekqrvgmarmfyhrpkyalldectsavsidsvegkifqaakdagiallsithr	642
Aardvark	wkdvlsggekqrvamarmfyhrpkyalldectsavsidsvegrifqaakdagiallsithr	654
Alpaca	wkdvlsggekqrvgmarmfyhrpkyalldectsavsidsvegkifqaakdagiallsithr	658
Armadillo	wkdvlsggekqrigmarmfyhrpkyalldectsavsidsvegkifqaakdagiallsithr	660
Baboon	wkdvlsggekqrigmarmfyhrpkyalldectsavsidsvegkifqaakdagiallsithr	660
Bat	wkdvlsggekqrigmarmfyhkpyalldectsavsidsvegkifqaakdagiallsithr	660
Cat	wkdvlsggekqrigmarmfyhrpkyalldectsavsidsvegkifqaakdagiallsithr	660
Chinchilla	wkdvlsggekqrigmarmfyhrpkyalldectsavsidsvegkifqaakdagiallsithr	660
Chinese-hamster	wkdvlsggekqrigmarmfyhrpkyalldectsavsidsvegkifqaakdagiallsithr	660
Cow	wkdvlsggekqrvgmarmfyhrpkyalldectsavsidsvegkifqaakdagiallsithr	660
Dog	wkdvlsggekqrigmarmfyhrpkyalldectsavsidsvegkifqaakdagiallsithr	660
Dolphin	wkdvlsggekqrvgmarmfyhrpkyalldectsavsidsvegkifqaakdagiallsithr	593
Ferret	wkdvlsggekqrigmarmfyhrpkyalldectsavsidsvegkifqaakdagiallsithr	660
Florida-manatee	wkdvlsggekqriamarmfyhrpkyalldectsavsidsvegkifqaakdagiallsithr	659
Flying-Fox	wkdvlsggekqrigmarmfyhkpyalldectsavsidsvegkifqaakdagiallsithr	660
Golden-hamster	wkdvlsggekqrigmarmfyhrpkyalldectsavsidsvegkifqaakdagiallsithr	658
Ground-Squirrel	wkdvlsggekqrigmarmfyhrpkyalldectsavsidsvegkifqaakdagiallsithr	658
Guinea-pig	wkdvlsggekqrigmarmfyhrpkyalldectsavsidsvegkifqaakdagiallsithr	660
Hedgehog	wkdvlsggekqrigmarmfyhkpyalldectsavsidsvegkifqaakdagiallsithr	659
Horse	wkdvlsggekqrigmarmfyhrpkyalldectsavsidsvegkifqaakdagiallsithr	660
Lemur	wkdvlsggekqrigmarmfyhrpkyalldectsavsidsvegkifqaakdagiallsithr	660
Minke-whale	wkdilsggekqrvgmarmfyhrpkyalldectsavsidsvegkifqaakdagiallsithr	640
Mole-rat	wkdvlsggekqrigmarmfyhrpkyalldectsavsidsvegkifqaakdagiallsithr	660
Naked-mole-rat	wkdvlsggekqrigmarmfyhrpkyalldectsavsidsvegkifqaakdagiallsithr	660



Opposum	wkdvlsggekqrigmarmfyhrpkyalldectsavsidsvegkifqaakdagiallsithr	581
Orca	wkdvlsggekqrvgmarmfyhrpkyalldectsavsidsvegkifqaakdagiallsithr	660
Prairie-vole	wkdvlsggekqrigmarmfyhrpkyalldectsavsidsvegkifqaakdagiallsithr	660
Python	wkdvlsggekqrmgmarmfyhrpkyalldectsavsidsvegkifqaakdagiallsithr	601
Small-eared-galago	wkdvlsggekqrigmarmfyhrpkyalldectsavsidsvegkifqaakdagiallsithr	660
Sperm-whale	wkdvlsggekqrvgmarmfyhrpkyalldectsavsidsvegkifqaakdagiallsithr	660

Human	pslwkyhthllqfdgeggwgfekldsaarlslteekqrleqqlagipkmqrrlqelcqil	720
Chimpanzee	pslwkyhthllqfdgeggwgfekldsaarlslteekqrleqqlagipkmqrrlqelcqil	720
Elephant	pslwkyhthllqfdgeggwgfekldsaarlslteekqrleqqlagipkmqrrlqelchil	720
Gorilla	pslwkyhthllqfdgeggwgfekldsaarlslteekqrleqqlagipkmqrrlqelcqil	720
Green-Monkey	pslwkyhthllqfdgeggwgfekldsaarlslteekqrleqqlagipkmqrrlqelcqil	716
Jerboa	pslwkyhthllqfdgeggwgfekldsaarlslteekqrleqqlagmpemqgrlqelrqil	720
Macaque	pslwkyhthllqfdgeggwgfekldsaarlslteekqrleqqlagipkmqrrlqelcqil	720
Marmoset	pslwkyhthllqfdgeggwgfekldsaarlslteekqrleqqlagipkmqrrlqelcqil	720
Mouse	pslwkyhthllqfdgeggwgfekldsaarlslteekqrleqqlagipkmqrrlqelrqil	720
Orangutan	pslwkyhthllqfdgeggwgfekldpaarlslteekqrleqqlagipkmqrrlqelcqil	720
Panda	pslwkyhthllqfdgeggwgfekldsaarlslteekqrleqqlagipkmqrrlqelcqil	720
Pig	pslwkyhthllqfdgeggwgfekldsaarlslteekqrleqqlagipkmqrrlqelcqil	720
Pika	pslwkyhthllqfdgeggwgfekldsaarlslteekqrleqqlagipkmqrrlqelcqil	720
Prairie-deer-mouse	pslwkyhthllqfdgeggwgfekldsaarlslteekqrleqqlagipkmqrrlqelrqil	720
Rabbit	pslwkyhthllqfdgeggwgfekldsaarlslteekqrleqqlagipkmqrrlqelcqil	720
Rat	pslwkyhthllqfdgeggwgfekldsaarlslteekqrleqqlagipkmqrrlqelrqil	720
Rhesus-Monkey	pslwkyhthllqfdgeggwgfekldsaarlslteekqrleqqlagipkmqrrlqelcqil	720
Seal	pslwkyhthllqfdgeggwgfekldpaarlslteekqrleqqlagipkmqrrlqelcqil	720
Squirrel-Monkey	pslwkyhthllqfdgeggwgfekldsaarlslteekqrleqqlagipkmqrrlqelcqil	720
Tarsier	pslwkyhthllqfdgeggwgfekldsaarlslteekqrleqqlagipkmqrrlqelcqil	720
Tasmanian-devil	pslwkyhthllqfdgeggwgfekldtvttrlreekqrleqqlagipkmqrrlqelceil	599
Walrus	pslwkyhthllqfdgeggwgfekldpaarlslteekqrleqqlagipkmqrrlqelchil	720
Water-buffalo	pslwkyhthllqfdgeggwgfekldsaarlslteekqrleqqlagipkmqrrlqelcqil	657
White-Rhinoceros	pslwkyhthllqfdgeggwgfekldsaarlslteekqrleqqlagvpmqrrlqelcqil	719
Yak	pslwkyhthllqfdgeggwgfekldsaarlslteekqrleqqlagipkmqrrlqelcqil	702
Aardvark	pslwkyhthllqfdgeggwgfekldsaarlslteekqrleqqlagipkmqrrlqelcqil	714
Alpaca	pslwkyhthllqfdgeggwgfekldsaarlslteekqrleqqlagipkmqrrlqelcqil	718
Armadillo	pslwkyhthllqfdgeggwgfekldsaarlslteekqrleqqlagipkmqrrlqelcqil	720
Baboon	pslwkyhthllqfdgeggwgfekldsaarlslteekqrleqqlagipkmqrrlqelcqil	720
Bat	pslwkyhthllqfdgeggwgfekldsaarlslteekqrleqqlagipkmqrrlqelcqil	720
Cat	pslwkyhthllqfdgeggwgfekldsaarlslteekqrleqqlagipkmqrrlqelcqil	720
Chinchilla	pslwkyhthllqfdgeggwgfekldsaarlslreerqrleqqlagipkmqrrlqelchil	720
Chinese-hamster	pslwkyhthllqfdgeggwgfekldsaarlslteekqrleqqlagipkmqrrlqelcqil	720
Cow	pslwkyhthllqfdgeggwgfekldsaarlslteekqrleqqlagipkmqrrlqelcqil	720
Dog	pslwkyhthllqfdgeggwgfekldsaarlslteekqrleqqlagipkmqrrlqelcqil	720
Dolphin	pslwkyhthllqfdgeggwgfekldsaarlslteekqrleqqlagipkmqrrlqelceil	653
Ferret	pslwkyhthllqfdgeggwgfekldsaarlslteekqrleqqlagvpmqrrlqelcqil	720
Florida-manatee	pslwkyhthllqfdgeggwgfekldsaarlslteekqrleqqlagipkmqrrlqelchil	719
Flying-Fox	pslwkyhthllqfdgeggwgfekldsaarlslteekqrleqqlagipkmqrrlqelcqil	720
Golden-hamster	pslwkyhthllqfdgeggwgfekldsaarlslteekqrleqqlagipkmqrrlqelcqil	718
Ground-Squirrel	pslwkyhthllqfdgeggwgfekldsaarlslteekqrleqqlagipkmqrrlqelrqil	718
Guinea-pig	pslwkyhthllqfdgeggwgfekldsaarlslteerqrleqqlagvpmqrrleelrhil	720
Hedgehog	pslwkyhthllqfdgeggwgfekldsaarlslteekqrleqqlagipkmqrrlqelcqil	719
Horse	pslwkyhthllqfdgeggwgfekldsaarlslteekqrleqqlagipkmqrrlqelcqil	720
Lemur	pslwkyhthllqfdgeggwgfekldsaarlslteekqrleqqlagipkmqrrlqelrqil	720
Minke-whale	pslwkyhthllqfdgeggwgfekldsaarlslteekqrleqqlagipkmqrrlqelcqil	700
Mole-rat	pslwkyhthllqfdgeggwgfekldsaarlslteekqrleqqlagipkmqrrlqelrqil	720
Naked-mole-rat	pslwkyhthllqfdgeggwgfekldsaarlslteerqrleqqlagvpmqrrlqelrhil	720
Opposum	pslwkyhthllqfdgeggwgfekldsaarlslreerqrleqqlagipkmqrrlqelceil	641
Orca	pslwkyhthllqfdgeggwgfekldsaarlslteekqrleqqlagipkmqrrlqelceil	720
Prairie-vole	pslwkyhthllqfdgeggwgfekldsaarlslteekqrleqqlagipkmqrrlqelrqil	720
Python	pslwkyhthllqfdgeggwgfekldpaarlslreerqrleqqlagvpmqrrlqelceil	661
Small-eared-galago	pslwkyhthllqfdgeggwgfekldsaarlslteekqrleqqlagipkiqrrlqelrqil	720
Sperm-whale	pslwkyhthllqfdgeggwgfekldsaarlslteekqrleqqlagipkmqrrlqelcqil	720

Human	geavapahvpapsppqpgg-lqgast	745
Chimpanzee	geavapahvpapsppqpgg-lqgast	745
Elephant	geaaap-----	726
Gorilla	geavapahvpapsppqpgg-lqgast	745
Green-Monkey	geamapaqvpapsppqpgg-lqgast	741
Jerboa	geaaapggppeaslpqpggips-----	741
Macaque	geamapaqvpapsppqpgg-lqgast	745
Marmoset	geavapaqapaqsp-----	734
Mouse	geaaapvqplvpqgvt-----	736
Orangutan	geavapahvpapsppqpgg-lqgast	745
Panda	ggsgvlggaapp-----	733
Pig	ggpgvphgaat-----	732
Pika	geaaspqqltapslpqpst-----	741

Prairie-deer-mouse	gevaapvqplvpgvst-----	736
Rabbit	geavtpgqlaapslpggvpt-----	741
Rat	geaaapvqplvpgipt-----	736
Rhesus-Monkey	geamapaqvpapspqdpqg-lqgast	745
Seal	ggsgvlgga-----	731
Squirrel-Monkey	geavapaeapapsqpgpg-lqgast	745
Tarsier	geavapqspapglqgpsvapgast-	745
Tasmanian-devil	gedadlhhvsqtsrpsp-----	616
Walrus	ggsgvlggaapp-----	733
Water-buffalo	ggpgganqgaat-----	669
White-Rhinoceros	ggglqgatt-----	728
Yak	ggpgganqgtat-----	714
Aardvark	gesavpggp-----	723
Alpaca	ggpsglqgaat-----	730
Armadillo	geaaapqqplapevat-----	736
Baboon	geamapaqvpapspqdpqg-lqgast	745
Bat	ggrrrvvqgaat-----	732
Cat	ggsgvlggaasp-----	733
Chinchilla	getpgpavpp-----	730
Chinese-hamster	getaapvqplvpgvpt-----	736
Cow	ggpgganqgtat-----	732
Dog	ggsgvlggavpp-----	733
Dolphin	ggpgvlgaaat-----	665
Ferret	ggpgvlggapl-----	733
Florida-manatee	geaaapeqppapspppglsrgatt-	744
Flying-Fox	ggpkvlggadi-----	732
Golden-hamster	getaapvkplvpdvpt-----	734
Ground-Squirrel	geamapqppaaslpggvpt-----	739
Guinea-pig	geatgpgips-----	730
Hedgehog	geatsgspassppgglpgitt-	744
Horse	ggglqgatt-----	729
Lemur	geavapggpsvl-qgtat-----	738
Minke-whale	ggpgvlgaaat-----	712
Mole-rat	geaaap-qpmaaslpggvpt-----	740
Naked-mole-rat	geap-----	724
Opposum	aedadsrpvpqtsdp-----	656
Orca	ggpgvlgaaat-----	732
Prairie-vole	geaaapvqplvpgvpt-----	736
Python	gedapsamg-----	670
Small-eared-galago	geavapggppvlrpqpgsglqgass	746
Sperm-whale	ggpgvlgaaat-----	732