

				20					40	
atp1_G168_DNA	<b>ATGGAATTCT</b>	<b>CACCCAGAGC</b>	<b>TGCGGAACTC</b>	<b>ACGACTCTAT</b>	<b>TAGAAAGTAG</b>					50
Translation +1	M E F	S P R A	A E L	T T L	L E S R					
atp1 G168 control	.....	.....	.....	.....	.....					50
Translation +1	M E F	S P R A	A E L	T T L	L E S R					
atp1 G168 2H	.....	.....	.....	.....	.....					50
Translation +1	M E F	S P R A	A E L	T T L	L E S R					
atp1 G168 12H	.....	.....	.....	.....	.....					50
Translation +1	M E F	S P R A	A E L	T T L	L E S R					
		60		80		100				
atp1_G168_DNA	<b>AATGACCAAC</b>	<b>TTTTACACGA</b>	<b>ATTTTCAAGT</b>	<b>GGATGAGATC</b>	<b>GGTCGAGTGG</b>					100
Translation +1	M T N	F Y T	N F Q V	D E I	G R V					
atp1 G168 control	.....	.....	.....	.....	.....					100
Translation +1	M T N	F Y T	N F Q V	D E I	G R V					
atp1 G168 2H	.....	.....	.....	.....	.....					100
Translation +1	M T N	F Y T	N F Q V	D E I	G R V					
atp1 G168 12H	.....	.....	.....	.....	.....					100
Translation +1	M T N	F Y T	N F Q V	D E I	G R V					
		120		140						
atp1_G168_DNA	<b>TCTCAGTTGG</b>	<b>AGATGGGATT</b>	<b>GCACGTGTTT</b>	<b>ATGGATTGAA</b>	<b>CGAGATTCAA</b>					150
Translation +1	V S V G	D G I	A R V	Y G L N	E I Q					
atp1 G168 control	.....	.....	.....	.....	.....					150
Translation +1	V S V G	D G I	A R V	Y G L N	E I Q					
atp1 G168 2H	.....	.....	.....	.....	.....					150
Translation +1	V S V G	D G I	A R V	Y G L N	E I Q					
atp1 G168 12H	.....	.....	.....	.....	.....					150
Translation +1	V S V G	D G I	A R V	Y G L N	E I Q					
		160		180		200				
atp1_G168_DNA	<b>GCAGGAGAAA</b>	<b>TGGTGGAAAT</b>	<b>TGCCAGCGGT</b>	<b>GTGAAAGGAA</b>	<b>TCGCCTTAAA</b>					200
Translation +1	A G E	M V E F	A S G	V K G	I A L N					
atp1 G168 control	.....	.....	.....	.....	.....					200
Translation +1	A G E	M V E F	A S G	V K G	I A L N					
atp1 G168 2H	.....	.....	.....	.....	.....					200
Translation +1	A G E	M V E F	A S G	V K G	I A L N					
atp1 G168 12H	.....	.....	.....	.....	.....					200
Translation +1	A G E	M V E F	A S G	V K G	I A L N					
		220		240						
atp1_G168_DNA	<b>TCTTGAGAAT</b>	<b>GAGAATGTAG</b>	<b>GTATTGTTGT</b>	<b>CTTTGGTAGT</b>	<b>GATACCGCTA</b>					250
Translation +1	L E N	E N V	G I V V	F G S	D T A					
atp1 G168 control	.....	.....	.....	.....	.....					250
Translation +1	L E N	E N V	G I V V	F G S	D T A					
atp1 G168 2H	.....	.....	.....	.....	.....					250
Translation +1	L E N	E N V	G I V V	F G S	D T A					
atp1 G168 12H	.....	.....	.....	.....	.....					250
Translation +1	L E N	E N V	G I V V	F G S	D T A					
		260		280		300				
atp1_G168_DNA	<b>TTAAAGAAGG</b>	<b>AGATCTTGTC</b>	<b>AAGCGCACTG</b>	<b>GATCTATTGT</b>	<b>GGATGTTTCT</b>					300
Translation +1	I K E G	D L V	K R T	G S I V	D V P					
atp1 G168 control	.....	.....	.....	.....	.....					300
Translation +1	I K E G	D L V	K R T	G S I V	D V P					
atp1 G168 2H	.....	.....	.....	.....	.....					300
Translation +1	I K E G	D L V	K R T	G S I V	D V P					
atp1 G168 12H	.....	.....	.....	.....	.....					300
Translation +1	I K E G	D L V	K R T	G S I V	D V P					
		320		340						
atp1_G168_DNA	<b>GCGGGAAGG</b>	<b>CCATGTTAGG</b>	<b>CCGTGTGGTC</b>	<b>GACGCCTTGG</b>	<b>GAGTACCTAT</b>					350
Translation +1	A G K	A M L G	R V V	D A L	G V P I					
atp1 G168 control	.....	.....	.....	.....	.....					350
Translation +1	A G K	A M L G	R V V	D A L	G V P I					
atp1 G168 2H	.....	.....	.....	.....	.....					350
Translation +1	A G K	A M L G	R V V	D A L	G V P I					
atp1 G168 12H	.....	.....	.....	.....	.....					350
Translation +1	A G K	A M L G	R V V	D A L	G V P I					

		360		380		400	
atp1_G168_DNA	<b>TGATGGAAA</b>	<b>GGGGCTCTAA</b>	<b>GCGATCACGA</b>	<b>ACGAAGACGT</b>	<b>GTCGAAGTGA</b>		400
Translation +1	D G K	G A L	S D H E	R R R	V E V		
atp1 G168 control	.....	.....	.....	.....	.....		400
Translation +1	D G K	G A L	S D H E	R R R	V E V		
atp1 G168 2H	.....	.....	.....	.....	.....		400
Translation +1	D G K	G A L	S D H E	R R R	V E V		
atp1 G168 12H	.....	.....	.....	.....	.....		400
Translation +1	D G K	G A L	S D H E	R R R	V E V		
		420		440			
atp1_G168_DNA	<b>AAGCCCCAGG</b>	<b>GATTATTGAA</b>	<b>CGTAAATCTG</b>	<b>TGCACGAACC</b>	<b>CATGCAAACA</b>		450
Translation +1	K A P G	I I E	R K S	V H E P	M Q T		
atp1 G168 control	.....	.....	.....	.....	.....		450
Translation +1	K A P G	I I E	R K S	V H E P	M Q T		
atp1 G168 2H	.....	.....	.....	.....	.....		450
Translation +1	K A P G	I I E	R K S	V H E P	M Q T		
atp1 G168 12H	.....	.....	.....	.....	.....		450
Translation +1	K A P G	I I E	R K S	V H E P	M Q T		
		460		480		500	
atp1_G168_DNA	<b>GGCTTAAAAG</b>	<b>CAGTGGATAG</b>	<b>CCTGGTTCCT</b>	<b>ATAGGCCGTG</b>	<b>GTCAACGAGA</b>		500
Translation +1	G L K	A V D S	L V P	I G R	G Q R E		
atp1 G168 control	.....	.....	.....	.....	.....		500
Translation +1	G L K	A V D S	L V P	I G R	G Q R E		
atp1 G168 2H	.....	.....	.....	.....	.....		500
Translation +1	G L K	A V D S	L V P	I G R	G Q R E		
atp1 G168 12H	.....	.....	.....	.....	.....		500
Translation +1	G L K	A V D S	L V P	I G R	G Q R E		
		520		540			
atp1_G168_DNA	<b>ACTTATAATC</b>	<b>GGGGACAGAC</b>	<b>AAACTGGAAA</b>	<b>AACTGCAATA</b>	<b>GCTATCGATA</b>		550
Translation +1	L I I	G D R	Q T G K	T A I	A I D		
atp1 G168 control	.....	.....	.....	.....	.....		550
Translation +1	L I I	G D R	Q T G K	T A I	A I D		
atp1 G168 2H	.....	.....	.....	.....	.....		550
Translation +1	L I I	G D R	Q T G K	T A I	A I D		
atp1 G168 12H	.....	.....	.....	.....	.....		550
Translation +1	L I I	G D R	Q T G K	T A I	A I D		
		560		580		600	
atp1_G168_DNA	<b>CTATATTA</b>	<b>CAAAAAGCAA</b>	<b>ATGAACTCAA</b>	<b>GGGGCACAAA</b>	<b>TGAGAGTGAG</b>		600
Translation +1	T I L N	Q K Q	M N S	R G T N	E S E		
atp1 G168 control	.....	.....	.....	.....	.....		600
Translation +1	T I L N	Q K Q	M N S	R G T N	E S E		
atp1 G168 2H	.....	.....	.....	.....	.....		600
Translation +1	T I L N	Q K Q	M N S	R G T N	E S E		
atp1 G168 12H	.....	.....	.....	.....	.....		600
Translation +1	T I L N	Q K Q	M N S	R G T N	E S E		
		620		640			
atp1_G168_DNA	<b>ACATTGTATT</b>	<b>GTGTCTATGT</b>	<b>TGCGATTGGA</b>	<b>CAAAAACGCT</b>	<b>CGACTGTGGC</b>		650
Translation +1	T L Y	C V Y V	A I G	Q K R	S T V A		
atp1 G168 control	.....	.....	.....	.....	.....		650
Translation +1	T L Y	C V Y V	A I G	Q K R	S T V A		
atp1 G168 2H	.....	.....	.....	.....	.....		650
Translation +1	T L Y	C V Y V	A I G	Q K R	S T V A		
atp1 G168 12H	.....	.....	.....	.....	.....		650
Translation +1	T L Y	C V Y V	A I G	Q K R	S T V A		
		660		680		700	
atp1_G168_DNA	<b>ACAATTAGTT</b>	<b>CAAATCTTTT</b>	<b>CAGAAGCGAA</b>	<b>TGCTTTGGAA</b>	<b>TATTCCATTC</b>		700
Translation +1	Q L V	Q I L	S E A N	A L E	Y S I		
atp1 G168 control	.....	.....	.....	.....	.....		700
Translation +1	Q L V	Q I L	S E A N	A L E	Y S I		
atp1 G168 2H	.....	.....	.....	.....	.....		700
Translation +1	Q L V	Q I L	S E A N	A L E	Y S I		
atp1 G168 12H	.....	.....	.....	.....	.....		700
Translation +1	Q L V	Q I L	S E A N	A L E	Y S I		

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          720                               740
atp1_G168_DNA TTGTAGCAGC CACCGCTTCG GATCCTGCTC CTCTGCAATT TCTGGCCCCA 750
Translation +1 L V A A T A S D P A P L Q F L A P
atp1 G168 control ..... 750
Translation +1 L V A A T A S D P A P L Q F L A P
atp1 G168 2H ..... 750
Translation +1 L V A A T A S D P A P L Q F L A P
atp1 G168 12H ..... 750
Translation +1 L V A A T A S D P A P L Q F L A P

          760                               780                               800
atp1_G168_DNA TATTCAGGGT GTGCCATGGG GGAATATTTT CGTGATAATG GAATGCATGC 800
Translation +1 Y S G C A M G E Y F R D N G M H A
atp1 G168 control .....C.....C..... 800
Translation +1 Y S G C A M G E Y F R D N G M H A
atp1 G168 2H .....C.....C..... 800
Translation +1 Y S G C A M G E Y F R D N G M H A
atp1 G168 12H .....C.....C..... 800
Translation +1 Y S G C A M G E Y F R D N G M H A

          820                               840
atp1_G168_DNA ATTAATTATA TATGATGATC TAAGTAAACA GGCGGTGGCA TATCGACAAA 850
Translation +1 L I I Y D D L S K Q A V A Y R Q
atp1 G168 control ..... 850
Translation +1 L I I Y D D L S K Q A V A Y R Q
atp1 G168 2H ..... 850
Translation +1 L I I Y D D L S K Q A V A Y R Q
atp1 G168 12H ..... 850
Translation +1 L I I Y D D L S K Q A V A Y R Q

          860                               880                               900
atp1_G168_DNA TGTCATTATT GTTACGCCGA CCACCAGGCC GTGAGGCTTT CCCAGGGGAT 900
Translation +1 M S L L L R R P P G R E A F P G D
atp1 G168 control ..... 900
Translation +1 M S L L L R R P P G R E A F P G D
atp1 G168 2H ..... 900
Translation +1 M S L L L R R P P G R E A F P G D
atp1 G168 12H ..... 900
Translation +1 M S L L L R R P P G R E A F P G D

          920                               940
atp1_G168_DNA GTTTTCTATT TACATTCCCG TCTCTTAGAA AGAGCCGCTA AACGATCGGA 950
Translation +1 V F Y L H S R L L E R A A K R S D
atp1 G168 control ..... 950
Translation +1 V F Y L H S R L L E R A A K R S D
atp1 G168 2H ..... 950
Translation +1 V F Y L H S R L L E R A A K R S D
atp1 G168 12H ..... 950
Translation +1 V F Y L H S R L L E R A A K R S D

          960                               980                               1,000
atp1_G168_DNA CCAGACAGGT GCAGGTAGCT CGACTGCGTT ACCCGTGATT GAGACTCAAT 1000
Translation +1 Q T G A G S S T A L P V I E T Q
atp1 G168 control .....T..... 1000
Translation +1 Q T G A G S L T A L P V I E T Q
atp1 G168 2H .....T..... 1000
Translation +1 Q T G A G S L T A L P V I E T Q
atp1 G168 12H .....T..... 1000
Translation +1 Q T G A G S L T A L P V I E T Q

          1,020                               1,040
atp1_G168_DNA CTGGAGACGT TTCCGCCTAT ATCCCCACCA ATGTAATCTC CATTACAGAT 1050
Translation +1 S G D V S A Y I P T N V I S I T D
atp1 G168 control .....T..T..T..... 1050
Translation +1 S G D V S A Y I P T N V I S I T D
atp1 G168 2H .....T..T..T..... 1050
Translation +1 S G D V S A Y I P T N V I S I T D
atp1 G168 12H .....T..T..T..... 1050
Translation +1 S G D V S A Y I P T N V I S I T D

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		1,060		1,080		1,100	
atp1_G168_DNA	<b>GGACAAATCT</b>	<b>GTTTGAAAC</b>	<b>AGAGCTCTTT</b>	<b>TATCGCGGAA</b>	<b>TTAGACCAGC</b>		1100
Translation +1	G Q I C L E T	E L F Y R G	I R P A				
atp1 G168 control	.....	.....	.....	.....	.....		1100
Translation +1	G Q I C L E T	E L F Y R G	I R P A				
atp1 G168 2H	.....	.....	.....	.....	.....		1100
Translation +1	G Q I C L E T	E L F Y R G	I R P A				
atp1 G168 12H	.....	.....	.....	.....	.....		1100
Translation +1	G Q I C L E T	E L F Y R G	I R P A				
		1,120		1,140			
atp1_G168_DNA	<b>TATTAACGTT</b>	<b>GGCTTATCCG</b>	<b>TCAGTGC</b>	<b>CGT</b>	<b>GGGTCTGCC</b>	<b>GCTCAGTTGA</b>	1150
Translation +1	I N V G L S	V S R V	G S A	A Q L			
atp1 G168 control	.....	.....	.....	.....	.....		1150
Translation +1	I N V G L S	V S R V	G S A	A Q L			
atp1 G168 2H	.....	.....	.....	.....	.....		1150
Translation +1	I N V G L S	V S R V	G S A	A Q L			
atp1 G168 12H	.....	.....	.....	.....	.....		1150
Translation +1	I N V G L S	V S R V	G S A	A Q L			
		1,160		1,180		1,200	
atp1_G168_DNA	<b>AAGCTATGAA</b>	<b>ACAAGTCTGC</b>	<b>GGTAGTTCAA</b>	<b>AACTGGAATT</b>	<b>GGCACAAATAT</b>		1200
Translation +1	K A M K	Q V C G S S	K L E L	A Q Y			
atp1 G168 control	.....	.....	.....	.....	.....		1200
Translation +1	K A M K	Q V C G S L	K L E L	A Q Y			
atp1 G168 2H	.....	.....	.....	.....	.....		1200
Translation +1	K A M K	Q V C G S L	K L E L	A Q Y			
atp1 G168 12H	.....	.....	.....	.....	.....		1200
Translation +1	K A M K	Q V C G S L	K L E L	A Q Y			
		1,220		1,240			
atp1_G168_DNA	<b>CGCGAAGTGG</b>	<b>CCGCCTTCGC</b>	<b>TCAATTTGGG</b>	<b>TCAGACCTTG</b>	<b>ATGCTGCGAC</b>		1250
Translation +1	R E V A A F A	Q F G S D L	D A A T				
atp1 G168 control	.....	.....	.....	.....	.....		1250
Translation +1	R E V A A F A	Q F G S D L	D A A T				
atp1 G168 2H	.....	.....	.....	.....	.....		1250
Translation +1	R E V A A F A	Q F G S D L	D A A T				
atp1 G168 12H	.....	.....	.....	.....	.....		1250
Translation +1	R E V A A F A	Q F G S D L	D A A T				
		1,260		1,280		1,300	
atp1_G168_DNA	<b>TCAGGCATTA</b>	<b>CTCAATAGAG</b>	<b>GTGCAAGGCT</b>	<b>TACAGAAGTG</b>	<b>CCCAAACAAC</b>		1300
Translation +1	Q A L L N R	G A R L	T E V P K Q				
atp1 G168 control	.....	.....	.....	.....	.....		1300
Translation +1	Q A L L N R	G A R L	T E V L K Q				
atp1 G168 2H	.....	.....	.....	.....	.....		1300
Translation +1	Q A L L N R	G A R L	T E V L K Q				
atp1 G168 12H	.....	.....	.....	.....	.....		1300
Translation +1	Q A L L N R	G A R L	T E V L K Q				
		1,320		1,340			
atp1_G168_DNA	<b>CACAAATATGA</b>	<b>ACCACTTCCA</b>	<b>ATTGAAAAAC</b>	<b>AAATTGTTGT</b>	<b>GATTTATGCT</b>		1350
Translation +1	P Q Y E P L P	I E K Q I V V	I Y A				
atp1 G168 control	.....	.....	.....	.....	.....		1350
Translation +1	P Q Y E P L P	I E K Q I V V	I Y A				
atp1 G168 2H	.....	.....	.....	.....	.....		1350
Translation +1	P Q Y E P L P	I E K Q I V V	I Y A				
atp1 G168 12H	.....	.....	.....	.....	.....		1350
Translation +1	P Q Y E P L P	I E K Q I V V	I Y A				
		1,360		1,380		1,400	
atp1_G168_DNA	<b>GCTGTCAACG</b>	<b>GCTTCTGTGA</b>	<b>TCGAATGCCA</b>	<b>CTAGACAGAA</b>	<b>TTTCTCAATA</b>		1400
Translation +1	A V N G F C D	R M P L D R	I S Q Y				
atp1 G168 control	.....	.....	.....	.....	.....		1400
Translation +1	A V N G F C D	R M P L D R	I S Q Y				
atp1 G168 2H	.....	.....	.....	.....	.....		1400
Translation +1	A V N G F C D	R M P L D R	I S Q Y				
atp1 G168 12H	.....	.....	.....	.....	.....		1400
Translation +1	A V N G F C D	R M P L D R	I S Q Y				

				1,420				1,440		
atp1_G168_DNA	TGAAAAAGCC	ATTCTAAGTA	CTATTAATCC		AGAATTACAA	AAATCCTTCT				1450
Translation +1	E K A	I L S	T I N P		E L Q	K S F				
atp1 G168 control	.....	.....	.....		.....	.....				1450
Translation +1	E K A	I L S	T I N P		E L Q	K S F				
atp1 G168 2H	.....	.....	.....		.....	.....				1450
Translation +1	E K A	I L S	T I N P		E L Q	K S F				
atp1 G168 12H	.....	.....	.....		.....	.....				1450
Translation +1	E K A	I L S	T I N P		E L Q	K S F				

		1,460		1,480		1,500	
atp1_G168_DNA	TAGAAAAAGG	TGGCTTAACT	AACGAAAGAA	AGATGGAACC	AGATGCTTCT		1500
Translation +1	L E K G	G L T	N E R	K M E P	D A S		
atp1 G168 control	.....	.....	.....	.....	.....		1500
Translation +1	L E K G	G L T	N E R	K M E L	D A F		
atp1 G168 2H	.....	.....	.....	.....	.....		1500
Translation +1	L E K G	G L T	N E R	K M E L	D A F		
atp1 G168 12H	.....	.....	.....	.....	.....		1500
Translation +1	L E K G	G L T	N E R	K M E L	D A F		

			1,520	
atp1_G168_DNA	TTAAAAGAAA	GCACCTTGCC	TTACCTGTGA	1530
Translation +1	L K E	S T L P	Y L *	
atp1 G168 control	.....	.....	.....	1530
Translation +1	L K E	S T L P	Y L *	
atp1 G168 2H	.....	.....	.....	1530
Translation +1	L K E	S T L P	Y L *	
atp1 G168 12H	.....	.....	.....	1530
Translation +1	L K E	S T L P	Y L *	