

Additional file 1

ttctggagagtgaggtggagggggggggaggttggagggaggaaggagaaatcatctgcaagcggag 68
 cgctggaagacctctccgtcctccaacttccccgagagagcgtggatgctggaaggagccccttggat 136

PTH1Rfw																		
ATG	GGA	TCA	TAT	CTG	GTT	TAT	CAC	AGC	CTG	GGT	TTG	ATC	CTC	TGC	TGC	TCC	187	
M	G	S	Y	L	V	Y	H	S	L	G	L	I	L	C	C	S	17	
GTG	CTG	AGC	TCG	GTC	TAC	GCT	CTG	↓	GTG	GAT	GCT	GAT	GAT	GTC	ATC	ACC	AAA	238
V	L	S	S	V	Y	A	L		V	D	A	D	D	V	I	T	K	34
GAG	GAG	CAG	ATC	TTT	CTA	CTG	CTA	AAA	GCC	AAG	GCC	AAG	TGC	GAG	CGA	CAC	289	
E	E	Q	I	F	L	L	L	K	A	K	A	K	(C)	E	R	H	51	
CTG	AAA	GCC	AAG	GTG	CCC	AAG	GTG	CAT	↓	GAT	GGC	TTT	TGT	CTT	CCT	GAG	TGG	340
L	K	A	K	V	P	K	V	H	D	G	F	(C)	L	P	E	W	68	
PTH1Rrv																		
GAT	GGT	ATT	GTC	TGC	TGG	CCA	GAA	GGT	GTG	CCG	GGC	AAA	GTG	GTG	GCT	ATG	391	
D	G	I	V	(C)	W	P	E	G	V	P	G	K	V	V	A	M	85	
CCA	TGT	CCT	GAG	TAC	ATC	TAT	GAC	TTC	AAT	CAC	AAA	↓	GGC	CAT	GCT	TAT	CGC	442
P	(C)	P	E	Y	I	Y	D	F	N	H	K	G	H	A	Y	R	102	
CGG	TGT	GAC	CTG	AAT	GGA	AGC	TGG	GAG	CTG	GTT	CCA	GGC	AAC	AAC	CGC	ACC	493	
R	(C)	D	L	N G S			W	E	L	V	P	G	N	N R T			119	
TGG	GCA	AAC	TAC	AGT	GAA	TGT	GCC	AAG	TTC	CTC	ACC	AAC	GAG	ACA	AGG	GAG	544	
W	A	N Y S			E	(C)	A	K	F	L	T	N E T			R	E	136	
AGG	↓	GAG	GTC	TTT	GAT	CGC	CTC	TAT	TTG	ATT	TAT	ACT	GTT	GGA	TAC	TCC	ATC	595
R	E	V	F	D	R	L	Y		<u>L I Y T V G Y S I</u>								153	
TCT	CTG	GGA	TCC	CTC	ACA	GTT	GCT	GTC	CTT	ATC	CTG	GGG	TAC	TTC	AGG	CGT	646	
<u>S</u>	<u>L</u>	<u>G</u>	<u>S</u>	<u>L</u>	<u>T</u>	<u>V</u>	<u>A</u>	<u>V</u>	<u>L</u>	<u>I</u>	<u>L</u>	<u>G</u>	<u>Y</u>	<u>F</u>	<u>R</u>	<u>R</u>	170	
TTG	CAC	TGC	ACT	AGA	AAC	TAC	ATC	CAC	ATG	CAC	CTG	TTT	GTC	TCC	TTC	ATG	697	
L	H	C	T	R	N	<u>Y I H M H L F V S F M</u>											187	
TTG	AGA	GCT	GTG	AGC	ATC	TTC	GTG	AAG	GAC	GCG	GTC	TTA	TAC	TCT	GGG	TCA	748	
L	R	A	V	S	I	F	V	K	D	A	V	L	Y	S	G	S	204	
GCT	TTG	GAG	GAG	ATG	GAG	CGG	ATT	TCT	GAG	GAA	GAC	CTG	AAA	TCC	ATA	ACT	799	
A	L	E	E	M	E	R	I	S	E	E	D	L	K	S	I	T	221	
GAA	GCA	CCT	CCA	GCA	GAT	AAG	TCA	CAG	TTT	↓	GTG	GGT	TGC	AAA	GTA	GCG	GTT	850
E	A	P	P	A	D	K	S	Q	F	V	G	C	K	<u>V A V</u>			238	
ACC	TTC	TTC	CTC	TAC	TTC	CTG	GCA	ACC	AAT	TAC	TAC	TGG	ATT	CTG	GTG	GAA	901	
<u>T</u>	<u>F</u>	<u>F</u>	<u>L</u>	<u>Y</u>	<u>F</u>	<u>L</u>	<u>A</u>	<u>T</u>	<u>N</u>	<u>Y</u>	<u>Y</u>	<u>W</u>	<u>I</u>	<u>L</u>	<u>V</u>	<u>E</u>	255	
TM3																		
GGG	CTC	TAT	CTC	CAC	AGC	CTC	ATC	TTC	ATG	GCT	TTT	TTC	TCA	GAG	AAG	AAG	952	
<u>G</u>	<u>L</u>	<u>Y</u>	<u>L</u>	<u>H</u>	<u>S</u>	<u>L</u>	<u>I</u>	<u>F</u>	<u>M</u>	<u>A</u>	<u>F</u>	<u>F</u>	<u>S</u>	<u>E</u>	<u>K</u>	<u>K</u>	272	
TAT	CTT	TGG	GGA	TTC	ACA	TTA	TTT	GGC	TGG	↓	GGA	CTC	CCT	GCT	GTA	TTT	GTT	1003
Y	<u>L</u>	<u>W</u>	<u>G</u>	<u>F</u>	<u>T</u>	<u>L</u>	<u>F</u>	<u>G</u>	<u>W</u>	<u>G</u>	<u>L</u>	<u>P</u>	<u>A</u>	<u>V</u>	<u>F</u>	<u>V</u>	289	
TM4																		
ACA	GCG	TGG	GCC	AGC	GTG	AGA	GCC	ACT	CTA	GCT	GAC	ACA	GAG	TGT	TGG	GAC	1054	
<u>T</u>	<u>A</u>	<u>W</u>	<u>A</u>	<u>S</u>	<u>V</u>	<u>R</u>	<u>A</u>	<u>T</u>	<u>L</u>	<u>A</u>	<u>D</u>	<u>T</u>	<u>E</u>	<u>C</u>	<u>W</u>	<u>D</u>	306	
TTG	AGT	GCT	GGC	AAT	TTA	AAA	TGG	ATT	ATT	CAG	GTG	CCC	ATC	CTG	GCA	GCT	1105	
L	S	A	G	N	L	<u>K</u>	<u>W</u>	<u>I</u>	<u>I</u>	<u>Q</u>	<u>V</u>	<u>P</u>	<u>I</u>	<u>L</u>	<u>A</u>	<u>A</u>	323	
TM5																		

ATC GTG \downarrow GTA AAT TTT ATT CTT TTT ATC AAT ATT ATC AGA GTC CTA GCA ACC 1156
I V V N F I L F I N I I R V L A T 340
 AAG CTA CGG GAA ACA AAT GCA GGG AGG TGT GAC TCA CGA CAA CAG TAC AGG \downarrow 1207
 K L R E T N A G R C D S R Q Q Y R 357
 AAG CTG CTG AAA TCT ACC CTC GTC CTT ATG CCT CTG TTT GGC GTT CAC TAT 1258
K L L K S T L V L M P L F G V H Y 374

TM6

 ATT GTT TTC ATG GCT ATG CCA TAC ACA GAT GTG TCA GGG ATT CTT TGG CAA 1309
I V F M A M P Y T D V S G I L W Q 391
 GTT CAA ATG CAC TAT GAA ATG CTG TTC AAC TCT TTC CAG \downarrow GGA TTT TTT GTT 1360
 V Q M H Y E M L F N S F O G F F V 408

TM7

 GCC ATC ATA TAC TGT TTT TGC AAT GGA GAG \downarrow GTC CAA GCA GAA ATA AAG AAG 1411
A I I Y C F C N G E V Q A E I K K 425
 TCA TGG AGC AGG TGG ACA TTA GCA CTT GAT TTT AAA AGG AAA GCA CGA AGT 1462
 S W S R W T L A L D F K R K A R S 442
 GGG AGC ACA ACC TAC AGT TAT GGA CCA ATG GTT TCC CAC ACC AGC ATC ACA 1513
 G S T T Y S Y G P M V S H T S I T 459
 AAT GTA GCC ACG AGA GGG GCA CTT GCC CTC CAT CTC AAT ACA AGA CTT ATA 1564
 N V A T R G A L A L H L N T R L I 476
 CCA GGG ACC CTC AAT GGA CAC CGG AAT TTA CCA GGT TAT GTA AAA AAC GGC 1615
 P G T L N G H R N L P G Y V K N G 493
 TCT ATT TCT GAA AAC TCT ATG CCT TCT TCT GGA CCA GAG CAG TAC AAC AAA 1666
 S I S E N S M P S S G P E Q Y N K 510
 GAT GAG GAG TAC CTG AAT GGC TCT GGG CTT TAT GAT GGA GAC AGA CCC ACA 1717
 D E E Y L N G S G L Y D G D R P T 527

PTH1Rfinalrv

 GTA CTT GTT GAA GAA \leftarrow GAA AGA GAG ACA GTG ATG TAA 1750
 V L V E E E R E T V M * 538