

PhoenixTemp41960.tmp.txt
SEQUENCE LISTING

<110> MELLITECH
<120> MAMMALIAN ANIMAL MODEL COMPRISING A POLYMORPHISM IN THE SLC30A8 GENE
<130> 352457 D25212
<150> US 60/900,433
<151> 2007-02-09
<160> 10
<170> PatentIn version 3.3
<210> 1
<211> 369
<212> PRT
<213> human
<400> 1

Met Glu Phe Leu Glu Arg Thr Tyr Leu Val Asn Asp Lys Ala Ala Lys
1 5 10 15

Met His Ala Phe Thr Leu Glu Ser Val Glu Leu Gln Gln Lys Pro Val
20 25 30

Asn Lys Asp Gln Cys Pro Arg Glu Arg Pro Glu Glu Leu Glu Ser Gly
35 40 45

Gly Met Tyr His Cys His Ser Gly Ser Lys Pro Thr Glu Lys Gly Ala
50 55 60

Asn Glu Tyr Ala Tyr Ala Lys Trp Lys Leu Cys Ser Ala Ser Ala Ile
65 70 75 80

Cys Phe Ile Phe Met Ile Ala Glu Val Val Gly Gly His Ile Ala Gly
85 90 95

Ser Leu Ala Val Val Thr Asp Ala Ala His Leu Leu Ile Asp Leu Thr
100 105 110

Ser Phe Leu Leu Ser Leu Phe Ser Leu Trp Leu Ser Ser Lys Pro Pro
115 120 125

Ser Lys Arg Leu Thr Phe Gly Trp His Arg Ala Glu Ile Leu Gly Ala
130 135 140

Leu Leu Ser Ile Leu Cys Ile Trp Val Val Thr Gly Val Leu Val Tyr
145 150 155 160

Leu Ala Cys Glu Arg Leu Leu Tyr Pro Asp Tyr Gln Ile Gln Ala Thr
165 170 175

Val Met Ile Ile Val Ser Ser Cys Ala Val Ala Ala Asn Ile Val Leu
180 185 190

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Thr Val Val Leu His Gln Arg Cys Leu Gly His Asn His Lys Glu Val
195 200 205
Gln Ala Asn Ala Ser Val Arg Ala Ala Phe Val His Ala Leu Gly Asp
210 215 220
Leu Phe Gln Ser Ile Ser Val Leu Ile Ser Ala Leu Ile Ile Tyr Phe
225 230 235 240
Lys Pro Glu Tyr Lys Ile Ala Asp Pro Ile Cys Thr Phe Ile Phe Ser
245 250 255
Ile Leu Val Leu Ala Ser Thr Ile Thr Ile Leu Lys Asp Phe Ser Ile
260 265 270
Leu Leu Met Glu Gly Val Pro Lys Ser Leu Asn Tyr Ser Gly Val Lys
275 280 285
Glu Leu Ile Leu Ala Val Asp Gly Val Leu Ser Val His Ser Leu His
290 295 300
Ile Trp Ser Leu Thr Met Asn Gln Val Ile Leu Ser Ala His Val Ala
305 310 315 320
Thr Ala Ala Ser Arg Asp Ser Gln Val Val Arg Arg Glu Ile Ala Lys
325 330 335
Ala Leu Ser Lys Ser Phe Thr Met His Ser Leu Thr Ile Gln Met Glu
340 345 350
Ser Pro Val Asp Gln Asp Pro Asp Cys Leu Phe Cys Glu Asp Pro Cys
355 360 365

Asp

<210> 2
<211> 369
<212> PRT
<213> human

<400> 2

Met Glu Phe Leu Glu Arg Thr Tyr Leu Val Asn Asp Lys Ala Ala Lys
1 5 10 15
Met His Ala Phe Thr Leu Glu Ser Val Glu Leu Gln Gln Lys Pro Val
20 25 30
Asn Lys Asp Gln Cys Pro Arg Glu Arg Pro Glu Glu Leu Glu Ser Gly
35 40 45
Gly Met Tyr His Cys His Ser Gly Ser Lys Pro Thr Glu Lys Gly Ala

50

55

60

Asn Glu Tyr Ala Tyr Ala Lys Trp Lys Leu Cys Ser Ala Ser Ala Ile
65 70 75 80

Cys Phe Ile Phe Met Ile Ala Glu Val Val Gly Gly His Ile Ala Gly
85 90 95

Ser Leu Ala Val Val Thr Asp Ala Ala His Leu Leu Ile Asp Leu Thr
100 105 110

Ser Phe Leu Leu Ser Leu Phe Ser Leu Trp Leu Ser Ser Lys Pro Pro
115 120 125

Ser Lys Arg Leu Thr Phe Gly Trp His Arg Ala Glu Ile Leu Gly Ala
130 135 140

Leu Leu Ser Ile Leu Cys Ile Trp Val Val Thr Gly Val Leu Val Tyr
145 150 155 160

Leu Ala Cys Glu Arg Leu Leu Tyr Pro Asp Tyr Gln Ile Gln Ala Thr
165 170 175

Val Met Ile Ile Val Ser Ser Cys Ala Val Ala Ala Asn Ile Val Leu
180 185 190

Thr Val Val Leu His Gln Arg Cys Leu Gly His Asn His Lys Glu Val
195 200 205

Gln Ala Asn Ala Ser Val Arg Ala Ala Phe Val His Ala Leu Gly Asp
210 215 220

Leu Phe Gln Ser Ile Ser Val Leu Ile Ser Ala Leu Ile Ile Tyr Phe
225 230 235 240

Lys Pro Glu Tyr Lys Ile Ala Asp Pro Ile Cys Thr Phe Ile Phe Ser
245 250 255

Ile Leu Val Leu Ala Ser Thr Ile Thr Ile Leu Lys Asp Phe Ser Ile
260 265 270

Leu Leu Met Glu Gly Val Pro Lys Ser Leu Asn Tyr Ser Gly Val Lys
275 280 285

Glu Leu Ile Leu Ala Val Asp Gly Val Leu Ser Val His Ser Leu His
290 295 300

Ile Trp Ser Leu Thr Met Asn Gln Val Ile Leu Ser Ala His Val Ala
305 310 315 320

Thr Ala Ala Ser Trp Asp Ser Gln Val Val Arg Arg Glu Ile Ala Lys
325 330 335

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Ala Leu Ser Lys Ser Phe Thr Met His Ser Leu Thr Ile Gln Met Glu
340 345 350

Ser Pro Val Asp Gln Asp Pro Asp Cys Leu Phe Cys Glu Asp Pro Cys
355 360 365

Asp

<210> 3
<211> 367
<212> PRT
<213> mouse

<400> 3

Met Glu Phe Leu Glu Arg Thr Tyr Leu Val Asn Asp Gln Ala Thr Lys
1 5 10 15

Met Tyr Ala Phe Pro Leu Asp Arg Glu Leu Arg Gln Lys Pro Val Asn
20 25 30

Lys Asp Gln Cys Pro Gly Asp Arg Pro Glu His Pro Glu Ala Gly Gly
35 40 45

Ile Tyr His Cys His Asn Ser Ala Lys Ala Thr Gly Asn Arg Ser Ser
50 55 60

Lys Gln Ala His Ala Lys Trp Arg Leu Cys Ala Ala Ser Ala Ile Cys
65 70 75 80

Phe Ile Phe Met Val Ala Glu Val Val Gly Gly His Val Ala Gly Ser
85 90 95

Leu Ala Ile Leu Thr Asp Ala Ala His Leu Leu Ile Asp Leu Thr Ser
100 105 110

Phe Leu Leu Ser Leu Phe Ser Leu Trp Leu Ser Ser Arg Pro Pro Ser
115 120 125

Lys Arg Leu Thr Phe Gly Trp Tyr Arg Ala Glu Ile Leu Gly Ala Leu
130 135 140

Leu Ser Val Leu Cys Ile Trp Val Val Thr Gly Val Leu Leu Tyr Leu
145 150 155 160

Ala Cys Glu Arg Leu Leu Tyr Pro Asp Tyr Gln Ile Gln Ala Gly Ile
165 170 175

Met Ile Thr Val Ser Gly Cys Ala Val Ala Ala Asn Ile Val Leu Thr
180 185 190

Met Ile Leu His Gln Arg Asn Phe Gly Tyr Asn His Lys Asp Val Gln
195 200 205

Ala Asn Ala Ser Val Arg Ala Ala Phe Val His Ala Leu Gly Asp Val
210 215 220

Phe Gln Ser Ile Ser Val Leu Ile Ser Ala Leu Ile Ile Tyr Phe Lys
225 230 235 240

Pro Asp Tyr Lys Ile Ala Asp Pro Val Cys Thr Phe Ile Phe Ser Ile
245 250 255

Leu Val Leu Ala Ser Thr Val Met Ile Leu Lys Asp Phe Ser Ile Leu
260 265 270

Leu Met Glu Gly Val Pro Lys Gly Leu Ser Tyr Asn Ser Val Lys Glu
275 280 285

Ile Ile Leu Ala Val Asp Gly Val Ile Ser Val His Ser Leu His Ile
290 295 300

Trp Ser Leu Thr Val Asn Gln Val Ile Leu Ser Val His Val Ala Thr
305 310 315 320

Ala Ala Ser Gln Asp Ser Gln Ser Val Arg Thr Gly Ile Ala Gln Ala
325 330 335

Leu Ser Ser Phe Asp Leu His Ser Leu Thr Ile Gln Ile Glu Ser Ala
340 345 350

Ala Asp Gln Asp Pro Ser Cys Leu Leu Cys Glu Asp Pro Gln Asp
355 360 365

<210> 4
<211> 368
<212> PRT
<213> Rat

<400> 4

Met Glu Phe Leu Glu Arg Thr Tyr Leu Val Asn Asp Gln Ala Thr Lys
1 5 10 15

Met Tyr Ala Phe Thr Ser Asp Arg Glu Arg Gly Gln Lys Pro Val Asn
20 25 30

Lys Asp Gln Cys Pro Gly Asp Gly Pro Glu Arg Pro Glu Ala Gly Ala
35 40 45

Ile Tyr His Cys His Asn Ser Phe Lys Ala Thr Gly Asn Arg Ser Ser
50 55 60

Lys Gln Val His Ala Lys Trp Arg Leu Cys Ala Ala Ser Ala Ile Cys
65 70 75 80

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Phe Phe Phe Met Val Ala Glu Val Val Gly Gly His Val Ala Gly Ser
 85 90 95
 Leu Ala Val Leu Thr Asp Ala Ala His Leu Leu Ile Asp Leu Thr Ser
 100 105 110
 Phe Leu Leu Ser Leu Phe Ser Leu Trp Leu Ser Ser Arg Pro Pro Ser
 115 120 125
 Lys Arg Leu Thr Phe Gly Trp Tyr Arg Ala Glu Ile Leu Gly Ala Leu
 130 135 140
 Leu Ser Val Leu Cys Ile Trp Val Val Thr Gly Val Leu Val Tyr Leu
 145 150 155 160
 Ala Cys Glu Arg Leu Leu Tyr Pro Asp Tyr Gln Ile Gln Ala Gly Ile
 165 170 175
 Met Ile Thr Val Ser Gly Cys Ala Val Ala Ala Asn Ile Val Leu Thr
 180 185 190
 Leu Ile Leu His Gln Arg His Leu Gly His Asn His Lys Asp Ala Gln
 195 200 205
 Ala Asn Ala Ser Val Arg Ala Ala Phe Val His Ala Leu Gly Asp Val
 210 215 220
 Phe Gln Ser Thr Ser Val Leu Ile Ser Ala Leu Ile Ile Tyr Phe Lys
 225 230 235 240
 Pro Asp Tyr Lys Met Ala Asp Pro Val Cys Thr Phe Ile Ser Ser Val
 245 250 255
 Leu Ala Leu Ala Ser Thr Val Met Ile Leu Lys Asp Phe Ser Ile Leu
 260 265 270
 Leu Met Glu Gly Val Pro Lys Gly Leu Ser Tyr Asn Ser Val Lys Glu
 275 280 285
 Leu Leu Leu Thr Val Asp Gly Val Ile Ser Val His Asn Leu His Ile
 290 295 300
 Trp Ser Leu Thr Val Asn Gln Val Ile Leu Ser Val His Val Ala Thr
 305 310 315 320
 Ala Ala Ser Gln Asp Ser Gln Ser Val Arg Thr Gly Ile Ala Cys Ala
 325 330 335
 Leu Ser Ser Ser Phe Asp Leu His Ser Leu Thr Ile Gln Ile Glu Ser
 340 345 350

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Ala Ala Asp Gln Asp Pro Ser Cys Leu Leu Cys Glu Asp Pro Gln Asp
355 360 365

<210> 5
<211> 369
<212> PRT
<213> Canis

<400> 5

Met Glu Phe Leu Glu Arg Thr Tyr Leu Val Asn Asp Arg Ala Thr Lys
1 5 10 15

Met Tyr Ala Phe Asn Leu Asp Ser Val Glu Leu Gln Gln Lys Ser Leu
20 25 30

Asn Lys Asp Gln Cys Pro Gly Glu Lys Pro Glu Glu Leu Glu Ser Gly
35 40 45

Ala Ile Tyr His Cys His Ser Asn Ser Lys Ala Thr Glu Asn Arg Ala
50 55 60

Asn Glu Gln Val Tyr Ala Lys Trp Lys Leu Tyr Ala Ala Ser Gly Val
65 70 75 80

Cys Phe Ile Phe Met Ile Ala Glu Val Val Gly Gly His Ile Ala Gly
85 90 95

Ser Leu Ala Val Ile Thr Asp Ala Ala His Leu Leu Ile Asp Leu Thr
100 105 110

Ser Phe Leu Leu Ser Leu Phe Ser Leu Trp Leu Ser Ser Lys Pro Pro
115 120 125

Ser Lys Gln Leu Thr Phe Gly Trp His Arg Ala Glu Ile Leu Gly Ala
130 135 140

Leu Leu Ser Ile Leu Cys Val Trp Val Val Thr Gly Val Leu Val Tyr
145 150 155 160

Leu Ala Cys Glu Arg Leu Leu Tyr Pro Asp Tyr Gln Ile Gln Gly Thr
165 170 175

Val Met Ile Leu Val Ser Gly Cys Ala Val Ala Ala Asn Ile Met Leu
180 185 190

Ser Val Ile Leu His Gln Lys His Pro Gly His Asn His Lys Glu Val
195 200 205

Gln Ala Asn Ala Ser Val Arg Ala Ala Phe Val His Ala Leu Gly Asp
210 215 220

Leu Phe Gln Ser Ile Ser Val Leu Thr Ser Ala Leu Ile Ile Tyr Phe
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Ser Leu Ala Val Val Thr Asp Ala Ala His Leu Leu Ile Asp Leu Thr
100 105 110

Ser Phe Leu Leu Ser Leu Val Ser Met Trp Leu Ser Ser Lys Pro Pro
115 120 125

Ser Lys Arg Leu Thr Phe Gly Trp His Arg Ala Glu Ile Leu Gly Ala
130 135 140

Leu Leu Ser Ile Leu Cys Ile Trp Val Val Thr Gly Val Leu Val Tyr
145 150 155 160

Leu Ala Cys Glu Arg Leu Leu Tyr Pro Asp Tyr Gln Ile Gln Ala Thr
165 170 175

Val Met Ile Ile Val Ser Ser Cys Ala Val Ala Ala Asn Ile Val Leu
180 185 190

Thr Val Val Leu His Gln Arg Cys Leu Gly His Asn His Lys Glu Val
195 200 205

Gln Gly Asn Ala Ser Val Arg Ala Ala Phe Val His Ala Leu Gly Asp
210 215 220

Leu Phe Gln Ser Ile Ser Val Leu Ile Ser Ala Leu Ile Ile Tyr Phe
225 230 235 240

Lys Pro Glu Tyr Lys Ile Ala Asp Pro Ile Cys Thr Phe Ile Phe Ser
245 250 255

Ile Leu Val Leu Ala Ser Thr Ile Thr Ile Leu Lys Asp Phe Ser Ile
260 265 270

Leu Leu Met Glu Gly Val Pro Lys Ser Leu Asn Tyr Ser Gly Val Lys
275 280 285

Glu Leu Ile Leu Ala Val Asp Gly Val Val Ser Val His Ser Leu His
290 295 300

Ile Trp Ser Leu Thr Val Asn Gln Val Ile Leu Ser Ala His Val Ala
305 310 315 320

Thr Ala Ala Ser Arg Asp Ser Gln Val Val Arg Arg Glu Ile Ala Lys
325 330 335

Ala Leu Ser Lys Ser Phe Thr Met His Ser Leu Thr Ile Gln Met Glu
340 345 350

Ser Pro Val Asp Gln Asp Pro Asp Cys Leu Phe Cys Glu Asp Pro Cys
355 360 365

Asp

<210> 7
 <211> 369
 <212> PRT
 <213> Macaque

<400> 7

Met Glu Phe Leu Glu Arg Thr Tyr Leu Val Asn Asp Lys Ala Ala Lys
 1 5 10 15

Met Tyr Ala Phe Thr Leu Glu Ser Val Glu Leu Gln Gln Lys Pro Val
 20 25 30

Asn Lys Asp His Cys Pro Arg Glu Arg Pro Glu Glu Leu Glu Ser Gly
 35 40 45

Gly Val Tyr His Cys His Ser Gly Ser Gln Ala Thr Glu Asn Arg Ala
 50 55 60

Asn Glu His Ala Tyr Ala Lys Trp Lys Leu Cys Ala Ala Ser Ala Ile
 65 70 75 80

Cys Phe Ile Phe Met Ile Ala Glu Val Val Gly Gly His Phe Ala Gly
 85 90 95

Ser Leu Ala Val Val Thr Asp Ala Ala His Leu Leu Ile Asp Leu Thr
 100 105 110

Ser Phe Leu Leu Ser Leu Phe Ser Leu Trp Leu Ser Ser Lys Pro Pro
 115 120 125

Ser Lys Arg Leu Thr Phe Gly Trp His Arg Ala Glu Ile Leu Gly Ala
 130 135 140

Leu Leu Ser Ile Leu Cys Ile Trp Val Val Thr Gly Val Leu Val Tyr
 145 150 155 160

Leu Ala Cys Glu Arg Leu Leu Tyr Pro Asp Tyr Gln Ile Gln Ala Thr
 165 170 175

Val Met Ile Ile Val Ser Ser Cys Ala Val Ala Ala Asn Ile Ile Leu
 180 185 190

Thr Val Val Leu His Gln Arg Arg Leu Gly His Asn His Lys Glu Val
 195 200 205

Gln Ala Asn Ala Ser Val Arg Ala Ala Phe Val His Ala Leu Gly Asp
 210 215 220

Leu Phe Gln Ser Ile Ser Val Leu Ile Ser Ala Leu Ile Ile Tyr Phe
 225 230 235 240

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Lys Pro Glu Tyr Lys Leu Ala Asp Pro Ile Cys Thr Phe Ile Phe Ser
245 250 255

Ile Leu Val Leu Ala Ser Thr Ile Thr Ile Leu Lys Asp Phe Ser Ile
260 265 270

Leu Leu Met Glu Gly Val Pro Lys Ser Leu Asn Tyr Asn Gly Val Lys
275 280 285

Glu Leu Ile Leu Ala Val Asp Gly Val Val Ser Val His Ser Leu His
290 295 300

Ile Trp Ser Leu Thr Met Asn Gln Val Ile Leu Ser Ala His Val Ala
305 310 315 320

Thr Ala Ala Ser Arg Glu Ser Gln Val Val Arg Arg Glu Ile Ala Arg
325 330 335

Ala Leu Ser Lys Ser Phe Thr Val Tyr Ser Leu Thr Ile Gln Met Glu
340 345 350

Ser Pro Val Asp Gln Asp Pro Asp Cys Leu Phe Cys Glu Asp Pro Arg
355 360 365

Asp

<210> 8
<211> 367
<212> PRT
<213> mouse

<400> 8

Met Glu Phe Leu Glu Arg Thr Tyr Leu Val Asn Asp Gln Ala Thr Lys
1 5 10 15

Met Tyr Ala Phe Pro Leu Asp Arg Glu Leu Arg Gln Lys Pro Val Asn
20 25 30

Lys Asp Gln Cys Pro Gly Asp Arg Pro Glu His Pro Glu Ala Gly Gly
35 40 45

Ile Tyr His Cys His Asn Ser Ala Lys Ala Thr Gly Asn Arg Ser Ser
50 55 60

Lys Gln Ala His Ala Lys Trp Arg Leu Cys Ala Ala Ser Ala Ile Cys
65 70 75 80

Phe Ile Phe Met Val Ala Glu Val Val Gly Gly His Val Ala Gly Ser
85 90 95

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Leu Ala Ile Leu Thr Asp Ala Ala His Leu Leu Ile Asp Leu Thr Ser
 100 105 110

Phe Leu Leu Ser Leu Phe Ser Leu Trp Leu Ser Ser Arg Pro Pro Ser
 115 120 125

Lys Arg Leu Thr Phe Gly Trp Tyr Arg Ala Glu Ile Leu Gly Ala Leu
 130 135 140

Leu Ser Val Leu Cys Ile Trp Val Val Thr Gly Val Leu Leu Tyr Leu
 145 150 155 160

Ala Cys Glu Arg Leu Leu Tyr Pro Asp Tyr Gln Ile Gln Ala Gly Ile
 165 170 175

Met Ile Thr Val Ser Gly Cys Ala Val Ala Ala Asn Ile Val Leu Thr
 180 185 190

Met Ile Leu His Gln Arg Asn Phe Gly Tyr Asn His Lys Asp Val Gln
 195 200 205

Ala Asn Ala Ser Val Arg Ala Ala Phe Val His Ala Leu Gly Asp Val
 210 215 220

Phe Gln Ser Ile Ser Val Leu Ile Ser Ala Leu Ile Ile Tyr Phe Lys
 225 230 235 240

Pro Asp Tyr Lys Ile Ala Asp Pro Val Cys Thr Phe Ile Phe Ser Ile
 245 250 255

Leu Val Leu Ala Ser Thr Val Met Ile Leu Lys Asp Phe Ser Ile Leu
 260 265 270

Leu Met Glu Gly Val Pro Lys Gly Leu Ser Tyr Asn Ser Val Lys Glu
 275 280 285

Ile Ile Leu Ala Val Asp Gly Val Ile Ser Val His Ser Leu His Ile
 290 295 300

Trp Ser Leu Thr Val Asn Gln Val Ile Leu Ser Val His Val Ala Thr
 305 310 315 320

Ala Ala Ser Trp Asp Ser Gln Ser Val Arg Thr Gly Ile Ala Gln Ala
 325 330 335

Leu Ser Ser Phe Asp Leu His Ser Leu Thr Ile Gln Ile Glu Ser Ala
 340 345 350

Ala Asp Gln Asp Pro Ser Cys Leu Leu Cys Glu Asp Pro Gln Asp
 355 360 365

<210> 9

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<211> 35
<212> DNA
<213> human

<400> 9
tgctacagct gccagccagg acagccagtc tgtgc 35

<210> 10
<211> 35
<212> DNA
<213> Artificial

<220>
<223> Mutated oligonucleotide

<400> 10
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