

SEQUENCE LISTING

<110> INSTITUT NATIONAL DE LA SANTE ET DE LA RECHERCHE MEDICALE
(INSERM)
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CASTANET, Mireille
CARRE, Aurore

<120> Polymorphic length of foxe1 alanine stretch and genetic susceptibility to thyroid dysgenesis

<130> 352921

<150> EP 07290569.8

<151> 2007-05-07

<160> 18

<170> PatentIn version 3.3

<210> 1

<211> 368

<212> PRT

<213> homo sapiens

<220>

<221> VARIANT

<222> (174)..(175)

<223> Possible insertion of (Ala)n with n=1, 2, 5, 6 or 8

<400> 1

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Thr Val Lys Glu Arg Gly Glu Thr Ala Ala Gly Ala Gly Val Pro
      20      25      30
Gly Glu Ala Thr Gly Arg Gly Ala Gly Gly Arg Arg Arg Lys Arg Pro
      35      40      45
Leu Gln Arg Gly Lys Pro Pro Tyr Ser Tyr Ile Ala Leu Ile Ala Met
      50      55      60
Ala Ile Ala His Ala Pro Glu Arg Arg Leu Thr Leu Gly Gly Ile Tyr
65      70      75      80
Lys Phe Ile Thr Glu Arg Phe Pro Phe Tyr Arg Asp Asn Pro Lys Lys
      85      90      95
Trp Gln Asn Ser Ile Arg His Asn Leu Thr Leu Asn Asp Cys Phe Leu
      100      105      110
Lys Ile Pro Arg Glu Ala Gly Arg Pro Gly Lys Gly Asn Tyr Trp Ala
      115      120      125
Leu Asp Pro Asn Ala Glu Asp Met Phe Glu Ser Gly Ser Phe Leu Arg
      130      135      140
Arg Arg Lys Arg Phe Lys Arg Ser Asp Leu Ser Thr Tyr Pro Ala Tyr
145      150      155      160
Met His Asp Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ile Phe
      165      170      175
Pro Gly Ala Val Pro Ala Ala Arg Pro Tyr Pro Gly Ala Val Tyr
      180      185      190
Ala Gly Tyr Ala Pro Pro Ser Leu Ala Ala Pro Pro Pro Val Tyr Tyr
      195      200      205
Pro Ala Ala Ser Pro Gly Pro Cys Arg Val Phe Gly Leu Val Pro Glu
      210      215      220
Arg Pro Leu Ser Pro Glu Leu Gly Pro Ala Pro Ser Gly Pro Gly Gly
225      230      235      240
Ser Cys Ala Phe Ala Ser Ala Gly Ala Pro Ala Thr Thr Thr Gly Tyr
      245      250      255
Gln Pro Ala Gly Cys Thr Gly Ala Arg Pro Ala Asn Pro Ser Ala Tyr
      260      265      270
Ala Ala Ala Tyr Ala Gly Pro Asp Gly Ala Tyr Pro Gln Gly Ala Gly
      275      280      285
Ser Ala Ile Phe Ala Ala Ala Gly Arg Leu Ala Gly Pro Ala Ser Pro

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PhoenixTemp64433.tmp.txt

290 295 300
 Pro Ala Gly Gly Ser Ser Gly Gly Val Glu Thr Thr Val Asp Phe Tyr
 305 310 315 320
 Gly Arg Thr Ser Pro Gly Gln Phe Gly Ala Leu Gly Ala Cys Tyr Asn
 325 330 335
 Pro Gly Gly Gln Leu Gly Gly Ala Ser Ala Gly Ala Tyr His Ala Arg
 340 345 350
 His Ala Ala Ala Tyr Pro Gly Gly Ile Asp Arg Phe Val Ser Ala Met
 355 360 365

<210> 2
 <211> 1107
 <212> DNA
 <213> homo sapiens

 <220>
 <221> variation
 <222> (522)..(523)
 <223> Possible insertion of (gcc)n with n= 1, 2, 5, 6 or 8

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ggcgggcggc	gccgcaagcg	ccccctgcag	cgcggggaagc	cgccctacag	ctacatcgcg	180
ctcatcgcca	tggccatcgc	gcacgcgccc	gagcgcggcc	tcacgctggg	cggcattctac	240
aagttcatca	ccgagcgctt	ccccttctac	cgcgacaacc	ccaaaaagtg	gcagaaacagc	300
atccgccaca	acctcacact	caacgactgc	ttcctcaaga	tcccgcgcga	ggccggccgc	360
ccgggtaagg	gcaactactg	ggcgcttgac	cccaacgcgg	aggacatgtt	cgagagcggc	420
agcttcctgc	gccgccgcaa	gcgcttcaag	cgctcggacc	tctccacctt	cccggcttac	480
atgcacgacg	cggcggctgc	cgcagccgcc	gccgcggccg	ccatcttccc	aggcgcggtg	540
cccgcgcgcg	gcccccccta	cccgggcgcc	gtctatgcag	gctacgcgcc	gccgtcgctg	600
gccgcgcgcg	ctccagtcta	ctaccccgcg	gcgtcgcccc	gcccttgccg	cgtcttcggc	660
ctggttcctg	agcggccgct	cagcccagag	ctggggcccg	caccgtcggg	gcccggcggc	720
tcttgcgctt	ttgcctccgc	cggcgcccc	gctaccacca	ccggctacca	gcccgcaggc	780
tgcaccgggg	cccggccggc	caacccctcc	gcctatgcgg	ctgcctacgc	gggccccgac	840
ggcgcgtacc	cgcagggcgc	cggcagtgcg	atctttgccg	ctgctggccg	cctggcggga	900
cccgccttcg	ccccagcggg	cggcagcagt	ggcggcgctg	agaccacggg	ggacttctac	960
gggcgcacgt	cgcccggcca	gttcggagcg	ctgggagcct	gctacaaccc	tggcgggcag	1020
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atagatcggg	tcgtgtccgc	catgtga				1107

<210> 3
 <211> 19
 <212> DNA
 <213> artificial sequence

<220>
 <223> Primer

<400> 3

gcggaggaca tggttcgaga 19

<210> 4
 <211> 20
 <212> DNA
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<220>
 <223> Primer

<400> 4

cgcggggtag tagactggag 20

<210> 5
 <211> 24
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<213> artificial sequence

<220>

<223> Primer

<400> 5

cgccgccgcc gcagcaatct tccc 24

<210> 6

<211> 24

<212> DNA

<213> artificial sequence

<220>

<223> Primer

<400> 6

gggaagattg ctgcggcggc ggcg 24

<210> 7

<211> 239

<212> DNA

<213> artificial sequence

<220>

<223> 11A FOXE1 PCR fragment

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gacctctcca	cctacccggc	ttacatgcac	gacgcggcgg	ctgccgcagc	cgccgccgcc	120
gccgccatct	tcccaggcgc	ggtgcccgcg	gcgcgcccc	cctacccggg	cgccgtctat	180
gcaggctacg	cgccgccgtc	gctggccgcg	ccgcctccag	tctactacc	cgcggcgtc	239

<210> 8

<211> 242

<212> DNA

<213> artificial sequence

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<223> 12A FOXE1 PCR fragment

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gcggaggaca	tggttcgagag	cggcagcttc	ctgcgccgcc	gcaagcgctt	caagcgctcg	60
gacctctcca	cctacccggc	ttacatgcac	gacgcggcgg	ctgccgcagc	cgccgccgcc	120
gccgccgcca	tcttcccagg	cgcggtgccc	gccgcgcgcc	ccccctacc	gggcgccgtc	180
tatgcaggct	acgcgccgcc	gtcgtctggc	gcgcgcctc	cagtctacta	ccccgcggcg	240
tc						242

<210> 9

<211> 248

<212> DNA

<213> artificial sequence

<220>

<223> 14A FOXE1 PCR fragment

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gcggaggaca	tggttcgagag	cggcagcttc	ctgcgccgcc	gcaagcgctt	caagcgctcg	60
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gccgccgccc	ccgccatctt	cccaggcgcg	gtgcccgcgg	cgcgcccc	ctaccgggc	180
gccgtctatg	caggctacgc	gccgccgtcg	ctggccgcgc	cgctccagt	ctactacccc	240
gcggcgtc						248

<210> 10

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<211> 254
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<223> 16A FOXE1 PCR fragment

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gcggaggaca	tggttcgagag	cggcagcttc	ctgcgccgcc	gcaagcgctt	caagcgctcg	60
gacctctcca	cctacccggc	ttacatgcac	gacgcggcgg	ctgccgcagc	cgccgccgcc	120
gccgccgcgg	ccgccgccgc	catcttccca	ggcgcggtgc	ccgccgcgcg	ccccccctac	180
ccgggcgcgg	tctatgcagg	ctacgcgccg	ccgtcgctgg	ccgcgccgcc	tccagtctac	240
taccccgcg	cgtc					254

<210> 11
<211> 257
<212> DNA
<213> artificial sequence

<220>
<223> 17A FOXE1 PCR fragment

<400> 11

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gacctctcca	cctacccggc	ttacatgcac	gacgcggcgg	ctgccgcagc	cgccgccgcc	120
gccgccgcgg	ccgccgccgc	cgccatcttc	ccaggcgcg	tgcccgcgc	gcgcccccc	180
tacccggcg	ccgtctatgc	aggctacgcg	ccgccgtcgc	tggccgcgc	gcctccagtc	240
tactaccccg	cggcgtc					257

<210> 12
<211> 263
<212> DNA
<213> artificial sequence

<220>
<223> 19A FOXE1 PCR fragment

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gcggaggaca	tggttcgagag	cggcagcttc	ctgcgccgcc	gcaagcgctt	caagcgctcg	60
gacctctcca	cctacccggc	ttacatgcac	gacgcggcgg	ctgccgcagc	cgccgccgcc	120
gccgccgcgg	ccgccgccgc	cgccgccgcc	atcttcccag	gcgcggtgcc	cgccgcgcgc	180
ccccctacc	cgggcgccgt	ctatgcaggc	tacgcgccgc	cgtcgctggc	cgccgccgct	240
ccagtctact	accccgccgc	gtc				263

<210> 13
<211> 79
<212> PRT
<213> artificial sequence

<220>
<223> Polypeptide encoded by 11A FOXE1 PCR fragment

<400> 13

Ala	Glu	Asp	Met	Phe	Glu	Ser	Gly	Ser	Phe	Leu	Arg	Arg	Arg	Lys	Arg
1				5				10						15	
Phe	Lys	Arg	Ser	Asp	Leu	Ser	Thr	Tyr	Pro	Ala	Tyr	Met	His	Asp	Ala
			20				25				30				
Ala	Ala	Ala	Ala	Ala	Ala	Ala	Ala	Ala	Ile	Phe	Pro	Gly	Ala	Val	
	35				40			45							
Pro	Ala	Ala	Arg	Pro	Pro	Tyr	Pro	Gly	Ala	Val	Tyr	Ala	Gly	Tyr	Ala
	50				55			60							
Pro	Pro	Ser	Leu	Ala	Ala	Pro	Pro	Pro	Val	Tyr	Tyr	Pro	Ala	Ala	
65				70				75							

<210> 14
 <211> 80
 <212> PRT
 <213> artificial sequence

<220>
 <223> Polypeptide encoded by 12A FOXE1 PCR fragment
 <400> 14

Ala	Glu	Asp	Met	Phe	Glu	Ser	Gly	Ser	Phe	Leu	Arg	Arg	Arg	Lys	Arg
1				5					10					15	
Phe	Lys	Arg	Ser	Asp	Leu	Ser	Thr	Tyr	Pro	Ala	Tyr	Met	His	Asp	Ala
			20					25					30		
Ala	Ala	Ala	Ala	Ala	Ala	Ala	Ala	Ala	Ala	Ala	Ile	Phe	Pro	Gly	Ala
		35					40					45			
Val	Pro	Ala	Ala	Arg	Pro	Pro	Tyr	Pro	Gly	Ala	Val	Tyr	Ala	Gly	Tyr
	50				55						60				
Ala	Pro	Pro	Ser	Leu	Ala	Ala	Pro	Pro	Pro	Val	Tyr	Tyr	Pro	Ala	Ala
65				70					75					80	

<210> 15
 <211> 82
 <212> PRT
 <213> artificial sequence

<220>
 <223> Polypeptide encoded by 14A FOXE1 PCR fragment
 <400> 15

Ala	Glu	Asp	Met	Phe	Glu	Ser	Gly	Ser	Phe	Leu	Arg	Arg	Arg	Lys	Arg
1				5					10					15	
Phe	Lys	Arg	Ser	Asp	Leu	Ser	Thr	Tyr	Pro	Ala	Tyr	Met	His	Asp	Ala
			20					25					30		
Ala	Ala	Ala	Ala	Ala	Ala	Ala	Ala	Ala	Ala	Ala	Ala	Ala	Ile	Phe	Pro
		35					40					45			
Gly	Ala	Val	Pro	Ala	Ala	Arg	Pro	Pro	Tyr	Pro	Gly	Ala	Val	Tyr	Ala
	50				55						60				
Gly	Tyr	Ala	Pro	Pro	Ser	Leu	Ala	Ala	Pro	Pro	Val	Tyr	Tyr	Pro	
65				70					75					80	
Ala	Ala														

<210> 16
 <211> 84
 <212> PRT
 <213> artificial sequence

<220>
 <223> Polypeptide encoded by 16A FOXE1 PCR fragment
 <400> 16

Ala	Glu	Asp	Met	Phe	Glu	Ser	Gly	Ser	Phe	Leu	Arg	Arg	Arg	Lys	Arg
1				5					10					15	
Phe	Lys	Arg	Ser	Asp	Leu	Ser	Thr	Tyr	Pro	Ala	Tyr	Met	His	Asp	Ala
			20					25					30		
Ala	Ala	Ala	Ala	Ala	Ala	Ala	Ala	Ala	Ala	Ala	Ala	Ala	Ala	Ala	Ile
		35					40					45			
Phe	Pro	Gly	Ala	Val	Pro	Ala	Arg	Pro	Pro	Tyr	Pro	Gly	Ala	Val	
	50				55					60					
Tyr	Ala	Gly	Tyr	Ala	Pro	Pro	Ser	Leu	Ala	Ala	Pro	Pro	Pro	Val	Tyr
65				70					75					80	
Tyr	Pro	Ala	Ala												

<210> 17
 <211> 85
 <212> PRT
 <213> artificial sequence

PhoenixTemp64433.tmp.txt

<220>

<223> Polypeptide encoded by 17A FOXE1 PCR fragment

<400> 17

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Ala Glu Asp Met Phe Glu Ser Gly Ser Phe Leu Arg Arg Arg Lys Arg
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Phe Lys Arg Ser Asp Leu Ser Thr Tyr Pro Ala Tyr Met His Asp Ala
      20      25      30
Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala
      35      40      45
Ile Phe Pro Gly Ala Val Pro Ala Ala Arg Pro Pro Tyr Pro Gly Ala
      50      55      60
Val Tyr Ala Gly Tyr Ala Pro Pro Ser Leu Ala Ala Pro Pro Pro Val
65      70      75      80
Tyr Tyr Pro Ala Ala
      85

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<210> 18

<211> 87

<212> PRT

<213> artificial sequence

<220>

<223> Polypeptide encoded by 19A FOXE1 PCR fragment

<400> 18

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Ala Glu Asp Met Phe Glu Ser Gly Ser Phe Leu Arg Arg Arg Lys Arg
1      5      10      15
Phe Lys Arg Ser Asp Leu Ser Thr Tyr Pro Ala Tyr Met His Asp Ala
      20      25      30
Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala
      35      40      45
Ala Ala Ile Phe Pro Gly Ala Val Pro Ala Ala Arg Pro Pro Tyr Pro
      50      55      60
Gly Ala Val Tyr Ala Gly Tyr Ala Pro Pro Ser Leu Ala Ala Pro Pro
65      70      75      80
Pro Val Tyr Tyr Pro Ala Ala
      85

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