

SEQUENCE LISTING

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FASOLO, Virginie

<120> METHODS FOR THE DIAGNOSIS, THE DETERMINATION OF THE GRADE OF A
SOLID TUMOR AND THE PROGNOSIS OF A SUBJECT SUFFERING FROM CANCER

<130> IPS-B-0011 PCT

<150> US 61/563,931

<151> 2011-11-28

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<170> PatentIn version 3.5

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420 425 430

Glu Val Ser Pro Arg Ile Pro Glu Cys Gln Gly Ser Lys Ser Pro Lys
435 440 445

Ala Ile Phe Glu Glu Leu Val Glu Met Lys Ser Asn Tyr Tyr Ser Phe
450 455 460

Ile Lys Gln Asn Asn Pro Lys Phe Ser Ala Val Gln Asp Ile Ser Ser
465 470 475 480

His Ser His Asn Lys Gln Pro Lys Arg Arg Pro Ile Leu Ser Ala Thr
485 490 495

Val Thr Lys Arg Lys Ala Thr Cys Thr Arg Glu Asn Gln Thr Glu Ile
500 505 510

Asn Lys Pro Lys Ala Lys Arg Cys Leu Asn Ser Ala Val Gly Glu His
515 520 525

Glu Lys Val Ile Asn Asn Gln Lys Glu Lys Glu Asp Phe His Ser Tyr
530 535 540

Leu Pro Ile Ile Asp Pro Ile Leu Ser Lys Ser Lys Ser Tyr Lys Asn
545 550 555 560

Glu Val Thr Pro Ser Ser Thr Thr Ala Ser Val Ala Arg Lys Arg Lys
565 570 575

Ser Asp Gly Ser Met Glu Asp Ala Asn Val Arg Val Ala Ile Thr Glu
580 585 590

His Thr Glu Val Arg Glu Ile Lys Arg Ile His Phe Ser Pro Ser Glu
595 600 605

Pro Lys Thr Ser Ala Val Lys Lys Thr Lys Asn Val Thr Thr Pro Ile
610 615 620

Ser Lys Arg Ile Ser Asn Arg Glu Lys Leu Asn Leu Lys Lys Lys Thr
625 630 635 640

Asp Leu Ser Ile Phe Arg Thr Pro Ile Ser Lys Thr Asn Lys Arg Thr
645 650 655

Lys Pro Ile Ile Ala Val Ala Gln Ser Ser Leu Thr Phe Ile Lys Pro
 660 665 670

Leu Lys Thr Asp Ile Pro Arg His Pro Met Pro Phe Ala Ala Lys Asn
 675 680 685

Met Phe Tyr Asp Glu Arg Trp Lys Glu Lys Gln Glu Gln Gly Phe Thr
 690 695 700

Trp Trp Leu Asn Phe Ile Leu Thr Pro Asp Asp Phe Thr Val Lys Thr
 705 710 715 720

Asn Ile Ser Glu Val Asn Ala Ala Thr Leu Leu Leu Gly Ile Glu Asn
 725 730 735

Gln His Lys Ile Ser Val Pro Arg Ala Pro Thr Lys Glu Glu Met Ser
 740 745 750

Leu Arg Ala Tyr Thr Ala Arg Cys Arg Leu Asn Arg Leu Arg Arg Ala
 755 760 765

Ala Cys Arg Leu Phe Thr Ser Glu Lys Met Val Lys Ala Ile Lys Lys
 770 775 780

Leu Glu Ile Glu Ile Glu Ala Arg Arg Leu Ile Val Arg Lys Asp Arg
 785 790 795 800

His Leu Trp Lys Asp Val Gly Glu Arg Gln Lys Val Leu Asn Trp Leu
 805 810 815

Leu Ser Tyr Asn Pro Leu Trp Leu Arg Ile Gly Leu Glu Thr Thr Tyr
 820 825 830

Gly Glu Leu Ile Ser Leu Glu Asp Asn Ser Asp Val Thr Gly Leu Ala
 835 840 845

Met Phe Ile Leu Asn Arg Leu Leu Trp Asn Pro Asp Ile Ala Ala Glu
 850 855 860

Tyr Arg His Pro Thr Val Pro His Leu Tyr Arg Asp Gly His Glu Glu
 865 870 875 880

Ala Leu Ser Lys Phe Thr Leu Lys Lys Leu Leu Leu Leu Val Cys Phe
 885 890 895

Leu Asp Tyr Ala Lys Ile Ser Arg Leu Ile Asp His Asp Pro Cys Leu
 900 905 910

Phe Cys Lys Asp Ala Glu Phe Lys Ala Ser Lys Glu Ile Leu Leu Ala
 915 920 925

Phe Ser Arg Asp Phe Leu Ser Gly Glu Gly Asp Leu Ser Arg His Leu
 Pge

930	935	940
Gly 945	Leu Leu Gly Leu Pro 950	Val Asn His Val Gln 955 Thr Pro Phe Asp Glu 960
Phe Asp Phe Ala	Val 965 Thr Asn Leu Ala	Val 970 Asp Leu Gln Cys Gly 975 Val
Arg Leu Val	Arg 980 Thr Met Glu Leu	Leu 985 Thr Gln Asn Trp Asp 990 Leu Ser
Lys Lys	Leu 995 Arg Ile Pro Ala	Ile 1000 Ser Arg Leu Gln Lys 1005 Met His Asn
Val Asp 1010	Ile Val Leu Gln Val 1015	Leu Lys Ser Arg Gly 1020 Ile Glu Leu
Ser Asp 1025	Glu His Gly Asn Thr 1030	Ile Leu Ser Lys Asp 1035 Ile Val Asp
Arg His 1040	Arg Glu Lys Thr Leu 1045	Arg Leu Leu Trp Lys 1050 Ile Ala Phe
Ala Phe 1055	Gln Val Asp Ile Ser 1060	Leu Asn Leu Asp Gln 1065 Leu Lys Glu
Glu Ile 1070	Ala Phe Leu Lys His 1075	Thr Lys Ser Ile Lys 1080 Lys Thr Ile
Ser Leu 1085	Leu Ser Cys His Ser 1090	Asp Asp Leu Ile Asn 1095 Lys Lys Lys
Gly Lys 1100	Arg Asp Ser Gly Ser 1105	Phe Glu Gln Tyr Ser 1110 Glu Asn Ile
Lys Leu 1115	Leu Met Asp Trp Val 1120	Asn Ala Val Cys Ala 1125 Phe Tyr Asn
Lys Lys 1130	Val Glu Asn Phe Thr 1135	Val Ser Phe Ser Asp 1140 Gly Arg Val
Leu Cys 1145	Tyr Leu Ile His His 1150	Tyr His Pro Cys Tyr 1155 Val Pro Phe
Asp Ala 1160	Ile Cys Gln Arg Thr 1165	Thr Gln Thr Val Glu 1170 Cys Thr Gln
Thr Gly 1175	Ser Val Val Leu Asn 1180	Ser Ser Ser Glu Ser 1185 Asp Asp Ser
Ser Leu 1190	Asp Met Ser Leu Lys 1195	Ala Phe Asp His Glu 1200 Asn Thr Ser

Glu	Leu	Tyr	Lys	Glu	Leu	Leu	Glu	Asn	Glu	Lys	Lys	Asn	Phe	His
	1205					1210					1215			
Leu	Val	Arg	Ser	Ala	Val	Arg	Asp	Leu	Gly	Gly	Ile	Pro	Ala	Met
	1220					1225					1230			
Ile	Asn	His	Ser	Asp	Met	Ser	Asn	Thr	Ile	Pro	Asp	Glu	Lys	Val
	1235					1240					1245			
Val	Ile	Thr	Tyr	Leu	Ser	Phe	Leu	Cys	Ala	Arg	Leu	Leu	Asp	Leu
	1250					1255					1260			
Arg	Lys	Glu	Ile	Arg	Ala	Ala	Arg	Leu	Ile	Gln	Thr	Thr	Trp	Arg
	1265					1270					1275			
Lys	Tyr	Lys	Leu	Lys	Thr	Asp	Leu	Lys	Arg	His	Gln	Glu	Arg	Glu
	1280					1285					1290			
Lys	Ala	Ala	Arg	Ile	Ile	Gln	Leu	Ala	Val	Ile	Asn	Phe	Leu	Ala
	1295					1300					1305			
Lys	Gln	Arg	Leu	Arg	Lys	Arg	Val	Asn	Ala	Ala	Leu	Val	Ile	Gln
	1310					1315					1320			
Lys	Tyr	Trp	Arg	Arg	Val	Leu	Ala	Gln	Arg	Lys	Leu	Leu	Met	Leu
	1325					1330					1335			
Lys	Lys	Glu	Lys	Leu	Glu	Lys	Val	Gln	Asn	Lys	Ala	Ala	Ser	Leu
	1340					1345					1350			
Ile	Gln	Gly	Tyr	Trp	Arg	Arg	Tyr	Ser	Thr	Arg	Gln	Arg	Phe	Leu
	1355					1360					1365			
Lys	Leu	Lys	Tyr	Tyr	Ser	Ile	Ile	Leu	Gln	Ser	Arg	Ile	Arg	Met
	1370					1375					1380			
Ile	Ile	Ala	Val	Thr	Ser	Tyr	Lys	Arg	Tyr	Leu	Trp	Ala	Thr	Val
	1385					1390					1395			
Thr	Ile	Gln	Arg	His	Trp	Arg	Ala	Tyr	Leu	Arg	Arg	Lys	Gln	Asp
	1400					1405					1410			
Gln	Gln	Arg	Tyr	Glu	Met	Leu	Lys	Ser	Ser	Thr	Leu	Ile	Ile	Gln
	1415					1420					1425			
Ser	Met	Phe	Arg	Lys	Trp	Lys	Gln	Arg	Lys	Met	Gln	Ser	Gln	Val
	1430					1435					1440			
Lys	Ala	Thr	Val	Ile	Leu	Gln	Arg	Ala	Phe	Arg	Glu	Trp	His	Leu
	1445					1450					1455			
Arg	Lys	Gln	Ala	Lys	Glu	Glu	Asn	Ser	Ala	Ile	Ile	Ile	Gln	Ser

1460	1465	1470
Trp Tyr 1475 Arg Met His Lys	Glu 1480 Leu Arg Lys Tyr	Ile 1485 Tyr Ile Arg
Ser Cys 1490 Val Val Ile Ile	Gln 1495 Lys Arg Phe Arg	Cys 1500 Phe Gln Ala
Gln Lys 1505 Leu Tyr Lys Arg	Arg 1510 Lys Glu Ser Ile	Leu 1515 Thr Ile Gln
Lys Tyr 1520 Tyr Lys Ala Tyr	Leu 1525 Lys Gly Lys Ile	Glu 1530 Arg Thr Asn
Tyr Leu 1535 Gln Lys Arg Ala	Ala 1540 Ala Ile Gln Leu	Gln 1545 Ala Ala Phe
Arg Arg 1550 Leu Lys Ala His	Asn 1555 Leu Cys Arg Gln	Ile 1560 Arg Ala Ala
Cys Val 1565 Ile Gln Ser Tyr	Trp 1570 Arg Met Arg Gln	Asp 1575 Arg Val Arg
Phe Leu 1580 Asn Leu Lys Lys	Thr 1585 Ile Ile Lys Phe	Gln 1590 Ala His Val
Arg Lys 1595 His Gln Gln Arg	Gln 1600 Lys Tyr Lys Lys	Met 1605 Lys Lys Ala
Ala Val 1610 Ile Ile Gln Thr	His 1615 Phe Arg Ala Tyr	Ile 1620 Phe Ala Met
Lys Val 1625 Leu Ala Ser Tyr	Gln 1630 Lys Thr Arg Ser	Ala 1635 Val Ile Val
Leu Gln 1640 Ser Ala Tyr Arg	Gly 1645 Met Gln Ala Arg	Lys 1650 Met Tyr Ile
His Ile 1655 Leu Thr Ser Val	Ile 1660 Lys Ile Gln Ser	Tyr 1665 Tyr Arg Ala
Tyr Val 1670 Ser Lys Lys Glu	Phe 1675 Leu Ser Leu Lys	Asn 1680 Ala Thr Ile
Lys Leu 1685 Gln Ser Thr Val	Lys 1690 Met Lys Gln Thr	Arg 1695 Lys Gln Tyr
Leu His 1700 Leu Arg Ala Ala	Ala 1705 Leu Phe Ile Gln	Gln 1710 Cys Tyr Arg
Ser Lys 1715 Lys Ile Ala Ala	Gln 1720 Lys Arg Glu Glu	Tyr 1725 Met Gln Met

Arg	Glu 1730	Ser	Cys	Ile	Lys	Leu 1735	Gln	Ala	Phe	Val	Arg 1740	Gly	Tyr	Leu
Val	Arg 1745	Lys	Gln	Met	Arg	Leu 1750	Gln	Arg	Lys	Ala	Val 1755	Ile	Ser	Leu
Gln	Ser 1760	Tyr	Phe	Arg	Met	Arg 1765	Lys	Ala	Arg	Gln	Tyr 1770	Tyr	Leu	Lys
Met	Tyr 1775	Lys	Ala	Ile	Ile	Val 1780	Ile	Gln	Asn	Tyr	Tyr 1785	His	Ala	Tyr
Lys	Ala 1790	Gln	Val	Asn	Gln	Arg 1795	Lys	Asn	Phe	Leu	Gln 1800	Val	Lys	Lys
Ala	Ala 1805	Thr	Cys	Leu	Gln	Ala 1810	Ala	Tyr	Arg	Gly	Tyr 1815	Lys	Val	Arg
Gln	Leu 1820	Ile	Lys	Gln	Gln	Ser 1825	Ile	Ala	Ala	Leu	Lys 1830	Ile	Gln	Ser
Ala	Phe 1835	Arg	Gly	Tyr	Asn	Lys 1840	Arg	Val	Lys	Tyr	Gln 1845	Ser	Val	Leu
Gln	Ser 1850	Ile	Ile	Lys	Ile	Gln 1855	Arg	Trp	Tyr	Arg	Ala 1860	Tyr	Lys	Thr
Leu	His 1865	Asp	Thr	Arg	Thr	His 1870	Phe	Leu	Lys	Thr	Lys 1875	Ala	Ala	Val
Ile	Ser 1880	Leu	Gln	Ser	Ala	Tyr 1885	Arg	Gly	Trp	Lys	Val 1890	Arg	Lys	Gln
Ile	Arg 1895	Arg	Glu	His	Gln	Ala 1900	Ala	Leu	Lys	Ile	Gln 1905	Ser	Ala	Phe
Arg	Met 1910	Ala	Lys	Ala	Gln	Lys 1915	Gln	Phe	Arg	Leu	Phe 1920	Lys	Thr	Ala
Ala	Leu 1925	Val	Ile	Gln	Gln	Asn 1930	Phe	Arg	Ala	Trp	Thr 1935	Ala	Gly	Arg
Lys	Gln 1940	Cys	Met	Glu	Tyr	Ile 1945	Glu	Leu	Arg	His	Ala 1950	Val	Leu	Val
Leu	Gln 1955	Ser	Met	Trp	Lys	Gly 1960	Lys	Thr	Leu	Arg	Arg 1965	Gln	Leu	Gln
Arg	Gln 1970	His	Lys	Cys	Ala	Ile 1975	Ile	Ile	Gln	Ser	Tyr 1980	Tyr	Arg	Met
His	Val	Gln	Gln	Lys	Lys	Trp	Lys	Ile	Met	Lys	Lys	Ala	Ala	Leu

1985	1990	1995
Leu Ile 2000	Gln Lys Tyr Tyr Arg 2005	Ala Tyr Ser Ile Gly 2010
Arg Glu Gln		
Asn His 2015	Leu Tyr Leu Lys Thr 2020	Lys Ala Ala Val Val 2025
Thr Leu Gln		
Ser Ala 2030	Tyr Arg Gly Met Lys 2035	Val Arg Lys Arg Ile 2040
Lys Asp Cys		
Asn Lys 2045	Ala Ala Val Thr Ile 2050	Gln Ser Lys Tyr Arg 2055
Ala Tyr Lys		
Thr Lys 2060	Lys Lys Tyr Ala Thr 2065	Tyr Arg Ala Ser Ala 2070
Ile Ile Ile		
Gln Arg 2075	Trp Tyr Arg Gly Ile 2080	Lys Ile Thr Asn His 2085
Gln His Lys		
Glu Tyr 2090	Leu Asn Leu Lys Lys 2095	Thr Ala Ile Lys Ile 2100
Gln Ser Val		
Tyr Arg 2105	Gly Ile Arg Val Arg 2110	Arg His Ile Gln His 2115
Met His Arg		
Ala Ala 2120	Thr Phe Ile Lys Ala 2125	Met Phe Lys Met His 2130
Gln Ser Arg		
Ile Ser 2135	Tyr His Thr Met Arg 2140	Lys Ala Ala Ile Val 2145
Ile Gln Val		
Arg Cys 2150	Arg Ala Tyr Tyr Gln 2155	Gly Lys Met Gln Arg 2160
Glu Lys Tyr		
Leu Thr 2165	Ile Leu Lys Ala Val 2170	Lys Val Leu Gln Ala 2175
Ser Phe Arg		
Gly Val 2180	Arg Val Arg Arg Thr 2185	Leu Arg Lys Met Gln 2190
Thr Ala Ala		
Thr Leu 2195	Ile Gln Ser Asn Tyr 2200	Arg Arg Tyr Arg Gln 2205
Gln Thr Tyr		
Phe Asn 2210	Lys Leu Lys Lys Ile 2215	Thr Lys Thr Val Gln 2220
Gln Arg Tyr		
Trp Ala 2225	Met Lys Glu Arg Asn 2230	Ile Gln Phe Gln Arg 2235
Tyr Asn Lys		
Leu Arg 2240	His Ser Val Ile Tyr 2245	Ile Gln Ala Ile Phe 2250
Arg Gly Lys		

Lys Ala Arg Arg His Leu Lys Met Met His Ile Ala Ala Thr Leu
 2255 2260 2265
 Ile Gln Arg Arg Phe Arg Thr Leu Met Met Arg Arg Arg Phe Leu
 2270 2275 2280
 Ser Leu Lys Lys Thr Ala Ile Leu Ile Gln Arg Lys Tyr Arg Ala
 2285 2290 2295
 His Leu Cys Thr Lys His His Leu Gln Phe Leu Gln Val Gln Asn
 2300 2305 2310
 Ala Val Ile Lys Ile Gln Ser Ser Tyr Arg Arg Trp Met Ile Arg
 2315 2320 2325
 Lys Arg Met Arg Glu Met His Arg Ala Ala Thr Phe Ile Gln Ser
 2330 2335 2340
 Thr Phe Arg Met His Arg Leu His Met Arg Tyr Gln Ala Leu Lys
 2345 2350 2355
 Gln Ala Ser Val Val Ile Gln Gln Gln Tyr Gln Ala Asn Arg Ala
 2360 2365 2370
 Ala Lys Leu Gln Arg Gln His Tyr Leu Arg Gln Arg His Ser Ala
 2375 2380 2385
 Val Ile Leu Gln Ala Ala Phe Arg Gly Met Lys Thr Arg Arg His
 2390 2395 2400
 Leu Lys Ser Met His Ser Ser Ala Thr Leu Ile Gln Ser Arg Phe
 2405 2410 2415
 Arg Ser Leu Leu Val Arg Arg Arg Phe Ile Ser Leu Lys Lys Ala
 2420 2425 2430
 Thr Ile Phe Val Gln Arg Lys Tyr Arg Ala Thr Ile Cys Ala Lys
 2435 2440 2445
 His Lys Leu Tyr Gln Phe Leu His Leu Arg Lys Ala Ala Ile Thr
 2450 2455 2460
 Ile Gln Ser Ser Tyr Arg Arg Leu Met Val Lys Lys Lys Leu Gln
 2465 2470 2475
 Glu Met Gln Arg Ala Ala Val Leu Ile Gln Ala Thr Phe Arg Met
 2480 2485 2490
 Tyr Arg Thr Tyr Ile Thr Phe Gln Thr Trp Lys His Ala Ser Ile
 2495 2500 2505
 Leu Ile Gln Gln His Tyr Arg Thr Tyr Arg Ala Ala Lys Leu Gln
 Pge

2510	2515	2520
Arg Glu 2525	Asn Tyr Ile Arg Gln 2530	Trp His Ser Ala Val 2535 Val Ile Gln
Ala Ala 2540	Tyr Lys Gly Met Lys 2545	Ala Arg Gln Leu Leu 2550 Arg Glu Lys
His Lys 2555	Ala Ser Ile Val Ile 2560	Gln Ser Thr Tyr Arg 2565 Met Tyr Arg
Gln Tyr 2570	Cys Phe Tyr Gln Lys 2575	Leu Gln Trp Ala Thr 2580 Lys Ile Ile
Gln Glu 2585	Lys Tyr Arg Ala Asn 2590	Lys Lys Lys Gln Lys 2595 Val Phe Gln
His Asn 2600	Glu Leu Lys Lys Glu 2605	Thr Cys Val Gln Ala 2610 Gly Phe Gln
Asp Met 2615	Asn Ile Lys Lys Gln 2620	Ile Gln Glu Gln His 2625 Gln Ala Ala
Ile Ile 2630	Ile Gln Lys His Cys 2635	Lys Ala Phe Lys Ile 2640 Arg Lys His
Tyr Leu 2645	His Leu Arg Ala Thr 2650	Val Val Ser Ile Gln 2655 Arg Arg Tyr
Arg Lys 2660	Leu Thr Ala Val Arg 2665	Thr Gln Ala Val Ile 2670 Cys Ile Gln
Ser Tyr 2675	Tyr Arg Gly Phe Lys 2680	Val Arg Lys Asp Ile 2685 Gln Asn Met
His Arg 2690	Ala Ala Thr Leu Ile 2695	Gln Ser Phe Tyr Arg 2700 Met His Arg
Ala Lys 2705	Val Asp Tyr Glu Thr 2710	Lys Lys Thr Ala Ile 2715 Val Val Ile
Gln Asn 2720	Tyr Tyr Arg Leu Tyr 2725	Val Arg Val Lys Thr 2730 Glu Arg Lys
Asn Phe 2735	Leu Ala Val Gln Lys 2740	Ser Val Arg Thr Ile 2745 Gln Ala Ala
Phe Arg 2750	Gly Met Lys Val Arg 2755	Gln Lys Leu Lys Asn 2760 Val Ser Glu
Glu Lys 2765	Met Ala Ala Ile Val 2770	Asn Gln Ser Ala Leu 2775 Cys Cys Tyr

Arg	Ser	Lys	Thr	Gln	Tyr	Glu	Ala	Val	Gln	Ser	Glu	Gly	Val	Met
	2780					2785					2790			
Ile	Gln	Glu	Trp	Tyr	Lys	Ala	Ser	Gly	Leu	Ala	Cys	Ser	Gln	Glu
	2795					2800					2805			
Ala	Glu	Tyr	His	Ser	Gln	Ser	Arg	Ala	Ala	Val	Thr	Ile	Gln	Lys
	2810					2815					2820			
Ala	Phe	Cys	Arg	Met	Val	Thr	Arg	Lys	Leu	Glu	Thr	Gln	Lys	Cys
	2825					2830					2835			
Ala	Ala	Leu	Arg	Ile	Gln	Phe	Phe	Leu	Gln	Met	Ala	Val	Tyr	Arg
	2840					2845					2850			
Arg	Arg	Phe	Val	Gln	Gln	Lys	Arg	Ala	Ala	Ile	Thr	Leu	Gln	His
	2855					2860					2865			
Tyr	Phe	Arg	Thr	Trp	Gln	Thr	Arg	Lys	Gln	Phe	Leu	Leu	Tyr	Arg
	2870					2875					2880			
Lys	Ala	Ala	Val	Val	Leu	Gln	Asn	His	Tyr	Arg	Ala	Phe	Leu	Ser
	2885					2890					2895			
Ala	Lys	His	Gln	Arg	Gln	Val	Tyr	Leu	Gln	Ile	Arg	Ser	Ser	Val
	2900					2905					2910			
Ile	Ile	Ile	Gln	Ala	Arg	Ser	Lys	Gly	Phe	Ile	Gln	Lys	Arg	Lys
	2915					2920					2925			
Phe	Gln	Glu	Ile	Lys	Asn	Ser	Thr	Ile	Lys	Ile	Gln	Ala	Met	Trp
	2930					2935					2940			
Arg	Arg	Tyr	Arg	Ala	Lys	Lys	Tyr	Leu	Cys	Lys	Val	Lys	Ala	Ala
	2945					2950					2955			
Cys	Lys	Ile	Gln	Ala	Trp	Tyr	Arg	Cys	Trp	Arg	Ala	His	Lys	Glu
	2960					2965					2970			
Tyr	Leu	Ala	Ile	Leu	Lys	Ala	Val	Lys	Ile	Ile	Gln	Gly	Cys	Phe
	2975					2980					2985			
Tyr	Thr	Lys	Leu	Glu	Arg	Thr	Arg	Phe	Leu	Asn	Val	Arg	Ala	Ser
	2990					2995					3000			
Ala	Ile	Ile	Ile	Gln	Arg	Lys	Trp	Arg	Ala	Ile	Leu	Pro	Ala	Lys
	3005					3010					3015			
Ile	Ala	His	Glu	His	Phe	Leu	Met	Ile	Lys	Arg	His	Arg	Ala	Ala
	3020					3025					3030			
Cys	Leu	Ile	Gln	Ala	His	Tyr	Arg	Gly	Tyr	Lys	Gly	Arg	Gln	Val
											Pge			

3035	3040	3045
Phe Leu 3050 Arg Gln Lys Ser	Ala 3055 Ala Leu Ile Ile	Gln 3060 Lys Tyr Ile
Arg Ala 3065 Arg Glu Ala Gly	Lys 3070 His Glu Arg Ile	Lys 3075 Tyr Ile Glu
Phe Lys 3080 Lys Ser Thr Val	Ile 3085 Leu Gln Ala Leu	Val 3090 Arg Gly Trp
Leu Val 3095 Arg Lys Arg Phe	Leu 3100 Glu Gln Arg Ala	Lys 3105 Ile Arg Leu
Leu His 3110 Phe Thr Ala Ala	Ala 3115 Tyr Tyr His Leu	Asn 3120 Ala Val Arg
Ile Gln 3125 Arg Ala Tyr Lys	Leu 3130 Tyr Leu Ala Val	Lys 3135 Asn Ala Asn
Lys Gln 3140 Val Asn Ser Val	Ile 3145 Cys Ile Gln Arg	Trp 3150 Phe Arg Ala
Arg Leu 3155 Gln Glu Lys Arg	Phe 3160 Ile Gln Lys Tyr	His 3165 Ser Ile Lys
Lys Ile 3170 Glu His Glu Gly	Gln 3175 Glu Cys Leu Ser	Gln 3180 Arg Asn Arg
Ala Ala 3185 Ser Val Ile Gln	Lys 3190 Ala Val Arg His	Phe 3195 Leu Leu Arg
Lys Lys 3200 Gln Glu Lys Phe	Thr 3205 Ser Gly Ile Ile	Lys 3210 Ile Gln Ala
Leu Trp 3215 Arg Gly Tyr Ser	Trp 3220 Arg Lys Lys Asn	Asp 3225 Cys Thr Lys
Ile Lys 3230 Ala Ile Arg Leu	Ser 3235 Leu Gln Val Val	Asn 3240 Arg Glu Ile
Arg Glu 3245 Glu Asn Lys Leu	Tyr 3250 Lys Arg Thr Ala	Leu 3255 Ala Leu His
Tyr Leu 3260 Leu Thr Tyr Lys	His 3265 Leu Ser Ala Ile	Leu 3270 Glu Ala Leu
Lys His 3275 Leu Glu Val Val	Thr 3280 Arg Leu Ser Pro	Leu 3285 Cys Cys Glu
Asn Met 3290 Ala Gln Ser Gly	Ala 3295 Ile Ser Lys Ile	Phe 3300 Val Leu Ile

Arg Ser Cys Asn Arg Ser Ile Pro Cys Met Glu Val Ile Arg Tyr
 3305 3310 3315
 Ala Val Gln Val Leu Leu Asn Val Ser Lys Tyr Glu Lys Thr Thr
 3320 3325 3330
 Ser Ala Val Tyr Asp Val Glu Asn Cys Ile Asp Ile Leu Leu Glu
 3335 3340 3345
 Leu Leu Gln Ile Tyr Arg Glu Lys Pro Gly Asn Lys Val Ala Asp
 3350 3355 3360
 Lys Gly Gly Ser Ile Phe Thr Lys Thr Cys Cys Leu Leu Ala Ile
 3365 3370 3375
 Leu Leu Lys Thr Thr Asn Arg Ala Ser Asp Val Arg Ser Arg Ser
 3380 3385 3390
 Lys Val Val Asp Arg Ile Tyr Ser Leu Tyr Lys Leu Thr Ala His
 3395 3400 3405
 Lys His Lys Met Asn Thr Glu Arg Ile Leu Tyr Lys Gln Lys Lys
 3410 3415 3420
 Asn Ser Ser Ile Ser Ile Pro Phe Ile Pro Glu Thr Pro Val Arg
 3425 3430 3435
 Thr Arg Ile Val Ser Arg Leu Lys Pro Asp Trp Val Leu Arg Arg
 3440 3445 3450
 Asp Asn Met Glu Glu Ile Thr Asn Pro Leu Gln Ala Ile Gln Met
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 Val Met Asp Thr Leu Gly Ile Pro Tyr
 3470 3475

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 ggtcgcaggt gggagccgac ggggtgggttag accgtggggg atatctcagt ggcggacgag 180
 gacggcgggg acaaggggcg gctggtcgga gtggcggagc gtcaagtccc ctgtcggttc 240
 ctccgtccct gagtgtcctt ggcgctgcct tgtgcccgcc cagcgccttt gcatccgctc 300
 ctgggcaccg aggcgccctg taggatactg cttgttactt attacagcta gagggctctca 360
 ctccattgcc caggccagag tgcggggata tttgataaga aacttcagtg aaggccgggc 420
 gcggtggctc atgcccgtaa tcccagcatt ttcggaggcc gaggctggag tgcaatgggtg 480
 Pge

tgatctcagc tcaactgcaac ctctgcttcc tgggtttaag tgattctcct gcctcagcct	540
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ctgttaaggc tacagctcca gttggaggtc caaaacgtgt tctcgtgact cagcaatttc	660
cttgtcagaa tccattacct gtaaatagtg gccaggctca gcgggtcttg tgccttcaa	720
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agaatcagaa gcagaagcaa ttgcaggcaa ccagtgtacc tcacctgtc tccaggccac	840
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actttgaaat tgggtcgccct ctgggttaaag gaaagtttgg taatgtttat ttggcaagag	1020
aaaagcaaag caagtttatt ctggctctta aagtgttatt taaagctcag ctggagaaag	1080
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 <211> 403
 <212> PRT
 <213> Homo sapiens

<400> 4

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Ala Pro Val Gly Gly Pro Lys Arg Val Leu Val Thr Gln Gln Phe Pro
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Cys Gln Asn Pro Leu Pro Val Asn Ser Gly Gln Ala Gln Arg Val Leu
 35 40 45

Cys Pro Ser Asn Ser Ser Gln Arg Ile Pro Leu Gln Ala Gln Lys Leu
 50 55 60

Val Ser Ser His Lys Pro Val Gln Asn Gln Lys Gln Lys Gln Leu Gln
 65 70 75 80

Ala Thr Ser Val Pro His Pro Val Ser Arg Pro Leu Asn Asn Thr Gln
 85 90 95

Lys Ser Lys Gln Pro Leu Pro Ser Ala Pro Glu Asn Asn Pro Glu Glu
 100 105 110

Glu Leu Ala Ser Lys Gln Lys Asn Glu Glu Ser Lys Lys Arg Gln Trp
 115 120 125

Ala Leu Glu Asp Phe Glu Ile Gly Arg Pro Leu Gly Lys Gly Lys Phe
 130 135 140

Gly Asn Val Tyr Leu Ala Arg Glu Lys Gln Ser Lys Phe Ile Leu Ala
 145 150 155 160

Leu Lys Val Leu Phe Lys Ala Gln Leu Glu Lys Ala Gly Val Glu His
 165 170 175

Gln Leu Arg Arg Glu Val Glu Ile Gln Ser His Leu Arg His Pro Asn
 180 185 190

Ile Leu Arg Leu Tyr Gly Tyr Phe His Asp Ala Thr Arg Val Tyr Leu
 195 200 205

Ile Leu Glu Tyr Ala Pro Leu Gly Thr Val Tyr Arg Glu Leu Gln Lys
 210 215 220

Leu Ser Lys Phe Asp Glu Gln Arg Thr Ala Thr Tyr Ile Thr Glu Leu
 225 230 235 240

Ala Asn Ala Leu Ser Tyr Cys His Ser Lys Arg Val Ile His Arg Asp

245	250	255
Ile Lys Pro Glu Asn Leu Leu Leu Gly Ser Ala Gly Glu Leu Lys Ile	260	265 270
Ala Asp Phe Gly Trp Ser Val His Ala Pro Ser Ser Arg Arg Thr Thr	275	280 285
Leu Cys Gly Thr Leu Asp Tyr Leu Pro Pro Glu Met Ile Glu Gly Arg	290	295 300
Met His Asp Glu Lys Val Asp Leu Trp Ser Leu Gly Val Leu Cys Tyr	305	310 315 320
Glu Phe Leu Val Gly Lys Pro Pro Phe Glu Ala Asn Thr Tyr Gln Glu	325	330 335
Thr Tyr Lys Arg Ile Ser Arg Val Glu Phe Thr Phe Pro Asp Phe Val	340	345 350
Thr Glu Gly Ala Arg Asp Leu Ile Ser Arg Leu Leu Lys His Asn Pro	355	360 365
Ser Gln Arg Pro Met Leu Arg Glu Val Leu Glu His Pro Trp Ile Thr	370	375 380
Ala Asn Ser Ser Lys Pro Ser Asn Cys Gln Asn Lys Glu Ser Ala Ser	385	390 395 400
Lys Gln Ser		

<210> 5
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 <212> DNA
 <213> Homo sapiens

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aaaaaaaaaa	aaaaaaaaaa	aaaa				2724

<210> 6
 <211> 165
 <212> PRT
 <213> Homo sapiens

<400> 6

Met Gly Ala Pro Thr Leu Pro Pro Ala Trp Gln Pro Phe Leu Lys Asp
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 His Arg Ile Ser Thr Phe Lys Asn Trp Pro Phe Leu Glu Gly Cys Ala
 20 25 30
 Cys Thr Pro Glu Arg Met Ala Glu Ala Gly Phe Ile His Cys Pro Thr
 35 40 45
 Glu Asn Glu Pro Asp Leu Ala Gln Cys Phe Phe Cys Phe Lys Glu Leu
 50 55 60
 Glu Gly Trp Glu Pro Asp Asp Asp Pro Ile Gly Pro Gly Thr Val Ala
 65 70 75 80
 Tyr Ala Cys Asn Thr Ser Thr Leu Gly Gly Arg Gly Gly Arg Ile Thr
 85 90 95
 Arg Glu Glu His Lys Lys His Ser Ser Gly Cys Ala Phe Leu Ser Val
 100 105 110
 Lys Lys Gln Phe Glu Glu Leu Thr Leu Gly Glu Phe Leu Lys Leu Asp
 115 120 125
 Arg Glu Arg Ala Lys Asn Lys Ile Ala Lys Glu Thr Asn Asn Lys Lys
 130 135 140
 Lys Glu Phe Glu Glu Thr Ala Glu Lys Val Arg Arg Ala Ile Glu Gln
 145 150 155 160
 Leu Ala Ala Met Asp
 165

<210> 7
 <211> 2811
 <212> DNA
 <213> Homo sapiens

<400> 7

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cgcccgtcca acaaccgcgg acccggggccg cgctggcggt actgaagtcc gggaaccgcg	480
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<210> 8
 <211> 432
 <212> PRT
 <213> Homo sapiens
 <400> 8

Met Leu Gly Asn Ser Ala Pro Gly Pro Ala Thr Arg Glu Ala Gly Ser
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Ala Leu Leu Ala Leu Gln Gln Thr Ala Leu Gln Glu Asp Gln Glu Asn
20 25 30

Ile Asn Pro Glu Lys Ala Ala Pro Val Gln Gln Pro Arg Thr Arg Ala
35 40 45

Ala Leu Ala Val Leu Lys Ser Gly Asn Pro Arg Gly Leu Ala Gln Gln
50 55 60

Gln Arg Pro Lys Thr Arg Arg Val Ala Pro Leu Lys Asp Leu Pro Val
65 70 75 80

Asn Asp Glu His Val Thr Val Pro Pro Trp Lys Ala Asn Ser Lys Gln
85 90 95

Pro Ala Phe Thr Ile His Val Asp Glu Ala Glu Lys Glu Ala Gln Lys
100 105 110

Lys Pro Ala Glu Ser Gln Lys Ile Glu Arg Glu Asp Ala Leu Ala Phe
115 120 125

Asn Ser Ala Ile Ser Leu Pro Gly Pro Arg Lys Pro Leu Val Pro Leu
130 135 140

Asp Tyr Pro Met Asp Gly Ser Phe Glu Ser Pro His Thr Met Asp Met
145 150 155 160

Ser Ile Val Leu Glu Asp Glu Lys Pro Val Ser Val Asn Glu Val Pro
165 170 175

Asp Tyr His Glu Asp Ile His Thr Tyr Leu Arg Glu Met Glu Val Lys
180 185 190

Cys Lys Pro Lys Val Gly Tyr Met Lys Lys Gln Pro Asp Ile Thr Asn
Pge

195

200

205

Ser Met Arg Ala Ile Leu Val Asp Trp Leu Val Glu Val Gly Glu Glu
210 215 220

Tyr Lys Leu Gln Asn Glu Thr Leu His Leu Ala Val Asn Tyr Ile Asp
225 230 235 240

Arg Phe Leu Ser Ser Met Ser Val Leu Arg Gly Lys Leu Gln Leu Val
245 250 255

Gly Thr Ala Ala Met Leu Leu Ala Ser Lys Phe Glu Glu Ile Tyr Pro
260 265 270

Pro Glu Val Ala Glu Phe Val Tyr Ile Thr Asp Asp Thr Tyr Thr Lys
275 280 285

Lys Gln Val Leu Arg Met Glu His Leu Val Leu Lys Val Leu Thr Phe
290 295 300

Asp Leu Ala Ala Pro Thr Val Asn Gln Phe Leu Thr Gln Tyr Phe Leu
305 310 315 320

His Gln Gln Pro Ala Asn Cys Lys Val Glu Ser Leu Ala Met Phe Leu
325 330 335

Gly Glu Leu Ser Leu Ile Asp Ala Asp Pro Tyr Leu Lys Tyr Leu Pro
340 345 350

Ser Val Ile Ala Gly Ala Ala Phe His Leu Ala Leu Tyr Thr Val Thr
355 360 365

Gly Gln Ser Trp Pro Glu Ser Leu Ile Arg Lys Thr Gly Tyr Thr Leu
370 375 380

Glu Ser Leu Lys Pro Cys Leu Met Asp Leu His Gln Thr Tyr Leu Lys
385 390 395 400

Ala Pro Gln His Ala Gln Gln Ser Ile Arg Glu Lys Tyr Lys Asn Ser
405 410 415

Lys Tyr His Gly Val Ser Leu Leu Asn Pro Pro Glu Thr Leu Asn Leu
420 425 430

<210> 9

<211> 1530

<212> DNA

<213> Homo sapiens

<400> 9

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gctggcactc ttgccttccc cgtccctcat ggcgctgctc cgacgcccca cggtgtccag 180

Pge

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<210> 10
 <211> 398
 <212> PRT
 <213> Homo sapiens

<400> 10

Met	Ala	Leu	Leu	Arg	Arg	Pro	Thr	Val	Ser	Ser	Asp	Leu	Glu	Asn	Ile
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Asp	Thr	Gly	Val	Asn	Ser	Lys	Val	Lys	Ser	His	Val	Thr	Ile	Arg	Arg
		20					25					30			

Thr	Val	Leu	Glu	Glu	Ile	Gly	Asn	Arg	Val	Thr	Thr	Arg	Ala	Ala	Gln
		35				40					45				

Val	Ala	Lys	Lys	Ala	Gln	Asn	Thr	Lys	Val	Pro	Val	Gln	Pro	Thr	Lys
	50				55						60				

Thr Thr Asn Val Asn Lys Gln Leu Lys Pro Thr Ala Ser Val Lys Pro
65 70 75 80

Val Gln Met Glu Lys Leu Ala Pro Lys Gly Pro Ser Pro Thr Pro Glu
85 90 95

Asp Val Ser Met Lys Glu Glu Asn Leu Cys Gln Ala Phe Ser Asp Ala
100 105 110

Leu Leu Cys Lys Ile Glu Asp Ile Asp Asn Glu Asp Trp Glu Asn Pro
115 120 125

Gln Leu Cys Ser Asp Tyr Val Lys Asp Ile Tyr Gln Tyr Leu Arg Gln
130 135 140

Leu Glu Val Leu Gln Ser Ile Asn Pro His Phe Leu Asp Gly Arg Asp
145 150 155 160

Ile Asn Gly Arg Met Arg Ala Ile Leu Val Asp Trp Leu Val Gln Val
165 170 175

His Ser Lys Phe Arg Leu Leu Gln Glu Thr Leu Tyr Met Cys Val Gly
180 185 190

Ile Met Asp Arg Phe Leu Gln Val Gln Pro Val Ser Arg Lys Lys Leu
195 200 205

Gln Leu Val Gly Ile Thr Ala Leu Leu Leu Ala Ser Lys Tyr Glu Glu
210 215 220

Met Phe Ser Pro Asn Ile Glu Asp Phe Val Tyr Ile Thr Asp Asn Ala
225 230 235 240

Tyr Thr Ser Ser Gln Ile Arg Glu Met Glu Thr Leu Ile Leu Lys Glu
245 250 255

Leu Lys Phe Glu Leu Gly Arg Pro Leu Pro Leu His Phe Leu Arg Arg
260 265 270

Ala Ser Lys Ala Gly Glu Val Asp Val Glu Gln His Thr Leu Ala Lys
275 280 285

Tyr Leu Met Glu Leu Thr Leu Ile Asp Tyr Asp Met Val His Tyr His
290 295 300

Pro Ser Lys Val Ala Ala Ala Ala Ser Cys Leu Ser Gln Lys Val Leu
305 310 315 320

Gly Gln Gly Lys Trp Asn Leu Lys Gln Gln Tyr Tyr Thr Gly Tyr Thr
325 330 335

Glu Asn Glu Val Leu Glu Val Met Gln His Met Ala Lys Asn Val Val
Pge

340

345

350

Lys Val Asn Glu Asn Leu Thr Lys Phe Ile Ala Ile Lys Asn Lys Tyr
 355 360 365

Ala Ser Ser Lys Leu Leu Lys Ile Ser Met Ile Pro Gln Leu Asn Ser
 370 375 380

Lys Ala Val Lys Asp Leu Ala Ser Pro Leu Ile Gly Arg Ser
 385 390 395

<210> 11
 <211> 1923
 <212> DNA
 <213> Homo sapiens

<400> 11
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 ctaccatacc cattgactaa ctatggaaga ttataccaaa atagagaaaa ttggagaagg 180
 tacctatgga gttgtgtata agggtagaca caaaactaca ggtcaagtgg tagccatgaa 240
 aaaaatcaga ctagaaagtg aagaggaagg ggttcctagt actgcaattc gggaaatttc 300
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aaa	1923

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 <213> Homo sapiens
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Val	Val	Tyr	Lys	Gly	Arg	His	Lys	Thr	Thr	Gly	Gln	Val	Val	Ala	Met
			20					25					30		

Lys	Lys	Ile	Arg	Leu	Glu	Ser	Glu	Glu	Glu	Gly	Val	Pro	Ser	Thr	Ala
		35					40					45			

Ile	Arg	Glu	Ile	Ser	Leu	Leu	Lys	Glu	Leu	Arg	His	Pro	Asn	Ile	Val
	50					55					60				

Ser	Leu	Gln	Asp	Val	Leu	Met	Gln	Asp	Ser	Arg	Leu	Tyr	Leu	Ile	Phe
65					70					75					80

Glu	Phe	Leu	Ser	Met	Asp	Leu	Lys	Lys	Tyr	Leu	Asp	Ser	Ile	Pro	Pro
				85					90					95	

Gly	Gln	Tyr	Met	Asp	Ser	Ser	Leu	Val	Lys	Ser	Tyr	Leu	Tyr	Gln	Ile
			100					105					110		

Leu	Gln	Gly	Ile	Val	Phe	Cys	His	Ser	Arg	Arg	Val	Leu	His	Arg	Asp
		115					120					125			

Leu	Lys	Pro	Gln	Asn	Leu	Leu	Ile	Asp	Asp	Lys	Gly	Thr	Ile	Lys	Leu
	130					135					140				

Ala	Asp	Phe	Gly	Leu	Ala	Arg	Ala	Phe	Gly	Ile	Pro	Ile	Arg	Val	Tyr
145					150					155					160

Thr	His	Glu	Val	Val	Thr	Leu	Trp	Tyr	Arg	Ser	Pro	Glu	Val	Leu	Leu
				165					170					175	

Gly	Ser	Ala	Arg	Tyr	Ser	Thr	Pro	Val	Asp	Ile	Trp	Ser	Ile	Gly	Thr

Pge

180

185

190

Ile Phe Ala Glu Leu Ala Thr Lys Lys Pro Leu Phe His Gly Asp Ser
195 200 205

Glu Ile Asp Gln Leu Phe Arg Ile Phe Arg Ala Leu Gly Thr Pro Asn
210 215 220

Asn Glu Val Trp Pro Glu Val Glu Ser Leu Gln Asp Tyr Lys Asn Thr
225 230 235 240

Phe Pro Lys Trp Lys Pro Gly Ser Leu Ala Ser His Val Lys Asn Leu
245 250 255

Asp Glu Asn Gly Leu Asp Leu Leu Ser Lys Met Leu Ile Tyr Asp Pro
260 265 270

Ala Lys Arg Ile Ser Gly Lys Met Ala Leu Asn His Pro Tyr Phe Asn
275 280 285

Asp Leu Asp Asn Gln Ile Lys Lys Met
290 295

<210> 13
<211> 1697
<212> DNA
<213> Homo sapiens

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Pge


```

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<210> 14
<211> 499
<212> PRT
<213> Homo sapiens

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<400> 14
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Met Ala Gln Phe Ala Phe Glu Ser Asp Leu His Ser Leu Leu Gln Leu
1           5           10           15

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```

Asp Ala Pro Ile Pro Asn Ala Pro Pro Ala Arg Trp Gln Arg Lys Ala
          20           25           30

```

```

Lys Glu Ala Ala Gly Pro Ala Pro Ser Pro Met Arg Ala Ala Asn Arg
          35           40           45

```

```

Ser His Ser Ala Gly Arg Thr Pro Gly Arg Thr Pro Gly Lys Ser Ser
          50           55           60

```

```

Ser Lys Val Gln Thr Thr Pro Ser Lys Pro Gly Gly Asp Arg Tyr Ile
65           70           75           80

```

```

Pro His Arg Ser Ala Ala Gln Met Glu Val Ala Ser Phe Leu Leu Ser
          85           90           95

```

```

Lys Glu Asn Gln Pro Glu Asn Ser Gln Thr Pro Thr Lys Lys Glu His
          100          105          110

```

```

Gln Lys Ala Trp Ala Leu Asn Leu Asn Gly Phe Asp Val Glu Glu Ala
          115          120          125

```

```

Lys Ile Leu Arg Leu Ser Gly Lys Pro Gln Asn Ala Pro Glu Gly Tyr
          130          135          140

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Gln Asn Arg Leu Lys Val Leu Tyr Ser Gln Lys Ala Thr Pro Gly Ser
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145		150		155		160									
Ser	Arg	Lys	Thr	Cys 165	Arg	Tyr	Ile	Pro	Ser 170	Leu	Pro	Asp	Arg	Ile 175	Leu
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Ser	Ser	Gly 195	Asn	Val	Leu	Ala	Val 200	Ala	Leu	Asp	Asn	Ser 205	Val	Tyr	Leu
Trp	Ser 210	Ala	Ser	Ser	Gly	Asp 215	Ile	Leu	Gln	Leu	Leu 220	Gln	Met	Glu	Gln
Pro 225	Gly	Glu	Tyr	Ile	Ser 230	Ser	Val	Ala	Trp	Ile 235	Lys	Glu	Gly	Asn	Tyr 240
Leu	Ala	Val	Gly	Thr 245	Ser	Ser	Ala	Glu	Val 250	Gln	Leu	Trp	Asp	Val 255	Gln
Gln	Gln	Lys	Arg 260	Leu	Arg	Asn	Met	Thr 265	Ser	His	Ser	Ala	Arg 270	Val	Gly
Ser	Leu	Ser 275	Trp	Asn	Ser	Tyr	Ile 280	Leu	Ser	Ser	Gly	Ser 285	Arg	Ser	Gly
His	Ile 290	His	His	His	Asp	Val 295	Arg	Val	Ala	Glu	His 300	His	Val	Ala	Thr
Leu 305	Ser	Gly	His	Ser	Gln 310	Glu	Val	Cys	Gly	Leu 315	Arg	Trp	Ala	Pro	Asp 320
Gly	Arg	His	Leu	Ala 325	Ser	Gly	Gly	Asn	Asp 330	Asn	Leu	Val	Asn	Val 335	Trp
Pro	Ser	Ala	Pro 340	Gly	Glu	Gly	Gly	Trp 345	Val	Pro	Leu	Gln	Thr 350	Phe	Thr
Gln	His	Gln 355	Gly	Ala	Val	Lys	Ala 360	Val	Ala	Trp	Cys	Pro 365	Trp	Gln	Ser
Asn	Val 370	Leu	Ala	Thr	Gly	Gly 375	Gly	Thr	Ser	Asp	Arg 380	His	Ile	Arg	Ile
Trp 385	Asn	Val	Cys	Ser	Gly 390	Ala	Cys	Leu	Ser	Ala 395	Val	Asp	Ala	His	Ser 400
Gln	Val	Cys	Ser	Ile 405	Leu	Trp	Ser	Pro	His 410	Tyr	Lys	Glu	Leu	Ile 415	Ser
Gly	His	Gly	Phe 420	Ala	Gln	Asn	Gln	Leu 425	Val	Ile	Trp	Lys	Tyr 430	Pro	Thr

Met Ala Lys Val Ala Glu Leu Lys Gly His Thr Ser Arg Val Leu Ser
435 440 445

Leu Thr Met Ser Pro Asp Gly Ala Thr Val Ala Ser Ala Ala Asp
450 455 460

Glu Thr Leu Arg Leu Trp Arg Cys Phe Glu Leu Asp Pro Ala Arg Arg
465 470 475 480

Arg Glu Arg Glu Lys Ala Ser Ala Ala Lys Ser Ser Leu Ile His Gln
485 490 495

Gly Ile Arg

<210> 15
<211> 1170
<212> DNA
<213> Homo sapiens

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<210> 16
<211> 268

<212> PRT
<213> Homo sapiens

<400> 16

Met Gly Ser Ala Lys Ser Val Pro Val Thr Pro Ala Arg Pro Pro Pro
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His Asn Lys His Leu Ala Arg Val Ala Asp Pro Arg Ser Pro Ser Ala
20 25 30

Gly Ile Leu Arg Thr Pro Ile Gln Val Glu Ser Ser Pro Gln Pro Gly
35 40 45

Leu Pro Ala Gly Glu Gln Leu Glu Gly Leu Lys His Ala Gln Asp Ser
50 55 60

Asp Pro Arg Ser Pro Thr Leu Gly Ile Ala Arg Thr Pro Met Lys Thr
65 70 75 80

Ser Ser Gly Asp Pro Pro Ser Pro Leu Val Lys Gln Leu Ser Glu Val
85 90 95

Phe Glu Thr Glu Asp Ser Lys Ser Asn Leu Pro Pro Glu Pro Val Leu
100 105 110

Pro Pro Glu Ala Pro Leu Ser Ser Glu Leu Asp Leu Pro Leu Gly Thr
115 120 125

Gln Leu Ser Val Glu Glu Gln Met Pro Pro Trp Asn Gln Thr Glu Phe
130 135 140

Pro Ser Lys Gln Val Phe Ser Lys Glu Glu Ala Arg Gln Pro Thr Glu
145 150 155 160

Thr Pro Val Ala Ser Gln Ser Ser Asp Lys Pro Ser Arg Asp Pro Glu
165 170 175

Thr Pro Arg Ser Ser Gly Ser Met Arg Asn Arg Trp Lys Pro Asn Ser
180 185 190

Ser Lys Val Leu Gly Arg Ser Pro Leu Thr Ile Leu Gln Asp Asp Asn
195 200 205

Ser Pro Gly Thr Leu Thr Leu Arg Gln Gly Lys Arg Pro Ser Pro Leu
210 215 220

Ser Glu Asn Val Ser Glu Leu Lys Glu Gly Ala Ile Leu Gly Thr Gly
225 230 235 240

Arg Leu Leu Lys Thr Gly Gly Arg Ala Trp Glu Gln Gly Gln Asp His
245 250 255

Asp Lys Glu Asn Gln His Phe Pro Leu Val Glu Ser
Pge

<210> 17
 <211> 1431
 <212> DNA
 <213> Homo sapiens

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<210> 18
 <211> 140
 <212> PRT
 <213> Homo sapiens

<400> 18

Met Gly Pro Arg Arg Arg Ser Arg Lys Pro Glu Ala Pro Arg Arg Arg
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Ser Pro Ser Pro Thr Pro Thr Pro Gly Pro Ser Arg Arg Gly Pro Ser
 Pge

20

25

30

Leu Gly Ala Ser Ser His Gln His Ser Arg Arg Arg Gln Gly Trp Leu
 35 40 45

Lys Glu Ile Arg Lys Leu Gln Lys Ser Thr His Leu Leu Ile Arg Lys
 50 55 60

Leu Pro Phe Ser Arg Leu Ala Arg Glu Ile Cys Val Lys Phe Thr Arg
 65 70 75 80

Gly Val Asp Phe Asn Trp Gln Ala Gln Ala Leu Leu Ala Leu Gln Glu
 85 90 95

Ala Ala Glu Ala Phe Leu Val His Leu Phe Glu Asp Ala Tyr Leu Leu
 100 105 110

Thr Leu His Ala Gly Arg Val Thr Leu Phe Pro Lys Asp Val Gln Leu
 115 120 125

Ala Arg Arg Ile Arg Gly Leu Glu Glu Gly Leu Gly
 130 135 140

<210> 19
 <211> 2656
 <212> DNA
 <213> Homo sapiens

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20

25

30

Glu Ile Ala His Leu Lys Thr Ser Val Asp Glu Ile Thr Ser Gly Lys
35 40 45

Gly Lys Leu Thr Asp Lys Glu Arg His Arg Leu Leu Glu Lys Ile Arg
50 55 60

Val Leu Glu Ala Glu Lys Glu Lys Asn Ala Tyr Gln Leu Thr Glu Lys
65 70 75 80

Asp Lys Glu Ile Gln Arg Leu Arg Asp Gln Leu Lys Ala Arg Tyr Ser
85 90 95

Thr Thr Ala Leu Leu Glu Gln Leu Glu Glu Thr Thr Arg Glu Gly Glu
100 105 110

Arg Arg Glu Gln Val Leu Lys Ala Leu Ser Glu Glu Lys Asp Val Leu
115 120 125

Lys Gln Gln Leu Ser Ala Ala Thr Ser Arg Ile Ala Glu Leu Glu Ser
130 135 140

Lys Thr Asn Thr Leu Arg Leu Ser Gln Thr Val Ala Pro Asn Cys Phe
145 150 155 160

Asn Ser Ser Ile Asn Asn Ile His Glu Met Glu Ile Gln Leu Lys Asp
165 170 175

Ala Leu Glu Lys Asn Gln Gln Trp Leu Val Tyr Asp Gln Gln Arg Glu
180 185 190

Val Tyr Val Lys Gly Leu Leu Ala Lys Ile Phe Glu Leu Glu Lys Lys
195 200 205

Thr Glu Thr Ala Ala His Ser Leu Pro Gln Gln Thr Lys Lys Pro Glu
210 215 220

Ser Glu Gly Tyr Leu Gln Glu Glu Lys Gln Lys Cys Tyr Asn Asp Leu
225 230 235 240

Leu Ala Ser Ala Lys Lys Asp Leu Glu Val Glu Arg Gln Thr Ile Thr
245 250 255

Gln Leu Ser Phe Glu Leu Ser Glu Phe Arg Arg Lys Tyr Glu Glu Thr
260 265 270

Gln Lys Glu Val His Asn Leu Asn Gln Leu Leu Tyr Ser Gln Arg Arg
275 280 285

Ala Asp Val Gln His Leu Glu Asp Asp Arg His Lys Thr Glu Lys Ile
290 295 300

Gln Lys Leu Arg Glu Glu Asn Asp Ile Ala Arg Gly Lys Leu Glu Glu
305 310 315 320

Glu Lys Lys Arg Ser Glu Glu Leu Leu Ser Gln Val Gln Phe Leu Tyr
325 330 335

Thr Ser Leu Leu Lys Gln Gln Glu Glu Gln Thr Arg Val Ala Leu Leu
340 345 350

Glu Gln Gln Met Gln Ala Cys Thr Leu Asp Phe Glu Asn Glu Lys Leu
355 360 365

Asp Arg Gln His Val Gln His Gln Leu His Val Ile Leu Lys Glu Leu
370 375 380

Arg Lys Ala Arg Asn Gln Ile Thr Gln Leu Glu Ser Leu Lys Gln Leu
385 390 395 400

His Glu Phe Ala Ile Thr Glu Pro Leu Val Thr Phe Gln Gly Glu Thr
405 410 415

Glu Asn Arg Glu Lys Val Ala Ala Ser Pro Lys Ser Pro Thr Ala Ala
420 425 430

Leu Asn Glu Ser Leu Val Glu Cys Pro Lys Cys Asn Ile Gln Tyr Pro
435 440 445

Ala Thr Glu His Arg Asp Leu Leu Val His Val Glu Tyr Cys Ser Lys
450 455 460

<210> 21
<211> 3108
<212> DNA
<213> Homo sapiens

<400> 21
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Asn Leu Leu Val Val Phe Ala Leu Thr Asn Ser Lys Lys Pro Lys Ser
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Val Thr Asp Ile Tyr Leu Leu Asn Leu Ala Leu Ser Asp Leu Leu Phe
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Val Ala Thr Leu Pro Phe Trp Thr His Tyr Leu Ile Asn Glu Lys Gly
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Leu His Asn Ala Met Cys Lys Phe Thr Thr Ala Phe Phe Phe Ile Gly
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Phe Phe Gly Ser Ile Phe Phe Ile Thr Val Ile Ser Ile Asp Arg Tyr
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Leu Ala Ile Val Leu Ala Ala Asn Ser Met Asn Asn Arg Thr Val Gln
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His Gly Val Thr Ile Ser Leu Gly Val Trp Ala Ala Ala Ile Leu Val
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Val Glu Thr Asn Phe Leu Gly Phe Leu Leu Pro Leu Leu Ile Met Ser
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Leu Ala Leu Ser Val Thr Glu Thr Val Ala Phe Ser His Cys Cys Leu
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Asn Pro Leu Ile Tyr Ala Phe Ala Gly Glu Lys Phe Arg Arg Tyr Leu
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Val	Thr	Glu	Asp	Asp	Glu	Ala	Gln	Asp	Val	Phe	Lys	Pro	Met	Asp	Leu
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Asn	Arg	Val	Ile	Lys	Leu	Leu	Glu	Glu	Thr	Asp	Lys	Asp	Gly	Leu	Glu
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Glu	Lys	Gln	Leu	Lys	Phe	Val	Lys	Lys	Leu	Val	Gln	Cys	Tyr	Gln	Asn
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Gly	Leu	Pro	Leu	Arg	Asp	Leu	Ala	Gln	Ile	Phe	Lys	Ile	Leu	Asn	Leu
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Asp Ile Ile Lys Leu Cys Gly Leu Pro Phe Leu Lys Lys Lys Val Ser
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Asp Glu Ile Thr Tyr Ala Glu Asp Thr Ala Asn Ser Ile Ala Leu Leu
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Gly Asp Leu Met Lys Ile Pro Ser Ser Glu Leu Arg Ile Gln Ile Cys
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Lys Cys Ile Val Asp Phe Tyr His Ala Glu Pro Pro Lys Lys His Ile
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Pro Gly Tyr Gln Gln Ala Ser Ser Ser Tyr Lys Ile Gln Met Ala Glu
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Val Gly Gly Leu Ala Lys Thr Met Val Gln Ser Met Thr Leu Leu Glu
195 200 205

Asn Gln Leu Val Glu Lys Leu Trp Val Leu Lys Val Leu Gln His Leu
210 215 220

Ser Thr Ser Glu Val Asn Cys Thr Ile Met Met Lys Ala Gln Ala Ala
225 230 235 240

Ser Gly Ile Cys Thr His Leu Asn Asp Pro Asp Pro Ser Gly Gln Leu
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Leu Phe Arg Ser Ser Glu Ile Leu Trp Asn Leu Leu Glu Lys Ser Ser
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Asp Arg Gln Leu Arg Asn Asp Ile Leu Val Ile Thr Thr Ile Ile Ala
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Lys Gly Leu Lys Leu Ser Asn Ser Tyr Glu Asp Phe Glu Leu Lys Lys
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Leu Leu Phe Asn Val Ile Val Ile Leu Cys Lys Asp Leu Pro Thr Val
Pge

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375

380

Gln Leu Leu Ile Asp Gly Lys Val Ile Leu Ala Leu Phe Thr Tyr Val
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Lys Lys Pro Glu Lys Gln Lys Ile Ile Asp Trp Ser Ala Ala Gln His
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Glu Glu Leu Gln Leu His Ala Ile Ala Thr Leu Ser Ser Val Ala Pro
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Ala Phe Leu Glu Trp Cys Glu Ser Glu Asp Pro Phe Phe Ser His Gly
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Asn Ser Phe His Gly Thr Gly Gly Arg Gly Asn Lys Phe Ala Gln Met
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Arg Tyr Ser Leu Arg Leu Leu Arg Ala Val Val Tyr Leu Glu Asp Glu
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Thr Val Asn Lys Asp Leu Cys Glu Lys Gly Thr Ile Gln Gln Met Ile
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Cys Cys Ile Leu Gly Cys Tyr Pro Ser Glu Asp Tyr Phe Leu Glu Lys
 595 600 605

Glu Gly Ile Phe Leu Leu Leu Asp Leu Leu Ala Leu Asn Gln Lys Lys
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Phe Cys Asn Leu Ile Leu Gly Ile Met Val Glu Phe Cys Asp Asn Pro
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 645 650 655

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 Gly Val Lys Arg Asp Lys Asn Gly Lys Ile Ile Asp Thr Lys Lys Pro
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 Lys Val Tyr Ala Lys Ile Gln Ala Thr His Lys Gln Arg Glu Leu Ala
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 850 855 860
 Tyr His Lys Arg Pro Gln Asn Ala Ile Phe His Gln Thr His Ile Lys
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 Gly Leu Asn Thr Thr Val Pro Ser Gly Gly Val Val Thr Val Glu Ser
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 Thr Pro Ala Arg Leu Val Gly Gly Pro Leu Val Asp Thr Asp Ile Ala
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Pro Thr Met Leu Pro Ile Asn Val Asp Pro Asp Ser Lys Pro Gly Glu
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Lys Ile Arg Ile Ile Met Ala Glu Pro Leu Glu Lys Pro Leu Thr Lys
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Val 1085	Ile	Leu	Lys	Asp	Ile 1090	Arg	Ala	His	Phe	Ser 1095	Ala	Met	Val
Ala 1100	Leu	Ile	Gln	Cys	Val 1105	Pro	Val	His	His	Arg 1110	Arg	Phe	Leu
Phe 1115	Gln	Gln	Ser	Leu	Arg 1120	His	His	Leu	Phe	Ile 1125	Leu	Phe	Ser
Gln 1130	Ala	Gly	Pro	Phe	Ser 1135	Ile	Met	Phe	Thr	Pro 1140	Leu	Asp	Arg
Tyr 1145	Asp	Arg	Asn	His	Gln 1150	Ile	Thr	Arg	Tyr	Gln 1155	Tyr	Cys	Ala
Leu 1160	Ala	Met	Ser	Ala	Val 1165	Leu	Cys	Cys	Gly	Pro 1170	Val	Phe	Asp
Asn 1175	Gly	Leu	Ser	Pro	Asp 1180	Gly	Tyr	Leu	Tyr	Lys 1185	Trp	Leu	Asp
Asn 1190	Leu	Ala	Cys	Gln	Asp 1195	Leu	Arg	Val	His	Gln 1200	Leu	Gly	Cys
Glu 1205	Val	Val	Leu	Leu	Leu 1210	Glu	Leu	Asn	Pro	Asp 1215	Gln	Ile	Asn
Leu 1220	Asn	Trp	Ala	Ile	Asp 1225	Arg	Cys	Tyr	Thr	Gly 1230	Ser	Tyr	Gln
Leu 1235	Ser	Gly	Cys	Phe	Lys 1240	Ala	Ile	Ala	Thr	Val 1245	Cys	Gly	Ser
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Phe 1265	Ala	Ser	Asp	Thr	Asn 1270	Arg	Glu	Ile	Tyr	Glu 1275	Ile	Ser	Met
Gln 1280	Met	Gln	Ile	Leu	Glu 1285	Ala	Lys	Leu	Phe	Val 1290	Tyr	Ser	Lys

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Cys Glu 1325	Leu Ala Arg Met Tyr 1330	Pro Glu Leu Thr Leu 1335 Pro Leu Phe
Ser Glu 1340	Val Ser Gln Arg Phe 1345	Pro Thr Thr His Pro 1350 Asn Gly Arg
Gln Ile 1355	Met Leu Thr Tyr Leu 1360	Leu Pro Trp Leu His 1365 Asn Ile Glu
Leu Val 1370	Asp Ser Arg Leu Leu 1375	Leu Pro Gly Ser Ser 1380 Pro Ser Ser
Pro Glu 1385	Asp Glu Val Lys Asp 1390	Arg Glu Gly Asp Val 1395 Thr Ala Ser
His Gly 1400	Leu Arg Gly Asn Gly 1405	Trp Gly Ser Pro Glu 1410 Ala Thr Ser
Leu Val 1415	Leu Asn Asn Leu Met 1420	Tyr Met Thr Ala Lys 1425 Tyr Gly Asp
Glu Val 1430	Pro Gly Pro Glu Met 1435	Glu Asn Ala Trp Asn 1440 Ala Leu Ala
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Gln Thr 1490	Met Glu Glu Leu Leu 1495	Phe Glu Leu Gln Gln 1500 Thr Glu Pro
Val Asn 1505	Pro Ile Val Gln His 1510	Cys Asp Asn Pro Pro 1515 Phe Tyr Arg
Phe Thr 1520	Ala Ser Ser Lys Ala 1525	Ser Ala Ala Ala Ser 1530 Gly Thr Thr
Ser Ser 1535	Ser Asn Thr Val Val 1540	Ala Gly Gln Glu Asn 1545 Phe Pro Asp

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Gln Leu 1850	Ser Glu Val Ala Leu 1855	Gln Thr Ala Leu Ala 1860
Arg His 1865	Tyr Ala Gly Arg Ser 1870	Phe Gln Ile Phe Arg 1875
Gln Pro 1880	Leu Ser Ala His Ala 1885	Leu Ser Asp Leu Leu 1890
Val Glu 1895	Val Ile Gly Glu His 1900	Gly Asp Glu Ile Gln 1905
Met Glu 1910	Ala Leu Leu Thr Leu 1915	Glu Ala Ala Val Asp 1920
Asp Cys 1925	Leu Lys Asn Ser Asp 1930	Leu Leu Thr Val Leu 1935
Ser Ser 1940	Pro Asp Leu Ser Ser 1945	Ser Ser Lys Leu Thr 1950
Lys Ser 1955	Thr Gly Gln Leu Asn 1960	Met Asn Pro Gly Thr 1965
Asn Thr 1970	Ala Thr Ala Glu Arg 1975	Ser Arg His Gln Arg 1980
Val Pro 1985	Lys Lys Phe Gly Val 1990	Ile Asp Arg Ser Ser 1995
Arg Ser 2000	Ala Thr Leu Asp Arg 2005	Ile Gln Ala Cys Thr 2010
Leu Ser 2015	Ser Lys Thr Arg Ser 2020	Ser Ser Ser Leu Lys 2025
Thr Asp 2030	Pro Ser His Ile Asn 2035	His Pro Thr Asn Leu 2040
Ile Phe 2045	Trp Val Thr Val Ala 2050	Leu Met Glu Ser Asp 2055
Glu Tyr 2060	Leu Met Ala Leu Arg 2065	Leu Leu Ser Arg Leu 2070

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Lys 2165	Asp	Ile	Ala	Glu	Arg	Ile 2170	Ala	Gln	Val	Cys	Leu 2175	Glu	Glu	Lys
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Leu 2300	Pro	Ser	Tyr	Gln	His	Ser 2305	Asp	Leu	Ser	Lys	Ile 2310	Glu	Ile	His
Arg 2315	Val	Trp	Thr	Ser	Ala	Ser 2320	Lys	Glu	Leu	Pro	Gly 2325	Lys	Thr	Leu
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Pro Gln Tyr		
Ser Gln 2390	Lys Arg Thr Lys Glu 2395	Lys Leu Val His Val 2400
Leu Ser Leu		
Cys Gly 2405	Gln Glu Val Gly Leu 2410	Ser Lys Asn Pro Ser 2415
Val Ile Phe		
Ser Ser 2420	Cys Gly Asp Leu Asp 2425	Leu Leu Glu His Gln 2430
Thr Ser Leu		
Val Ser 2435	Ser Glu Asp Gly Ala 2440	Arg Glu Gln Glu Asn 2445
Met Asp Asp		
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Phe Asp Phe		
Leu Asp 2465	Val Glu Leu Glu Asp 2470	Gly Glu Gly Glu Ser 2475
Met Asp Asn		
Phe Asn 2480	Trp Gly Val Arg Arg 2485	Arg Ser Leu Asp Ser 2490
Leu Asp Lys		
Cys Asp 2495	Met Gln Ile Leu Glu 2500	Glu Arg Gln Leu Ser 2505
Gly Ser Thr		
Pro Ser 2510	Leu Asn Lys Met His 2515	His Glu Asp Ser Asp 2520
Glu Ser Ser		
Glu Glu 2525	Glu Asp Leu Thr Ala 2530	Ser Gln Ile Leu Glu 2535
His Ser Asp		
Leu Ile 2540	Met Thr Leu Ser Pro 2545	Ser Glu Glu Thr Asn 2550
Pro Met Glu		
Leu Leu 2555	Thr Thr Ala Cys Asp 2560	Ser Thr Pro Ala Glu 2565
Pro His Ser		
Phe Asn 2570	Thr Arg Met Ser Ser 2575	Phe Asp Ala Ser Leu 2580
Pro Asp Met		
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Ala Val Arg		

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Asn Asn 2915	Glu Leu Gly Lys	Ala 2920	Leu Arg Gln Ile	Arg Glu Cys Arg 2925
Ser Leu 2930	Trp Pro Asn Asp	Ile 2935	Phe Gly Ser Ser	Ser Asp Asp Glu 2940
Val Gln 2945	Thr Leu Leu Asn	Ile 2950	Tyr Phe Arg His	Gln Thr Leu Gly 2955
Gln Thr 2960	Gly Thr Tyr Ala	Leu 2965	Val Gly Ser Asn	Gln Ser Leu Thr 2970
Glu Ile 2975	Cys Thr Lys Leu	Met 2980	Glu Leu Asn Met	Glu Ile Arg Asp 2985
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Glu Val Ser Val Arg Thr Gly Gly Leu Ala Asp Lys Ser Ser Arg Lys
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Thr Tyr Thr Phe Asp Met Val Phe Gly Ala Ser Thr Lys Gln Ile Asp
 65 70 75 80

Val Tyr Arg Ser Val Val Cys Pro Ile Leu Asp Glu Val Ile Met Gly
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Tyr Asn Cys Thr Ile Phe Ala Tyr Gly Gln Thr Gly Thr Gly Lys Thr
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Phe Thr Met Glu Gly Glu Arg Ser Pro Asn Glu Glu Tyr Thr Trp Glu
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Glu Asp Pro Leu Ala Gly Ile Ile Pro Arg Thr Leu His Gln Ile Phe
 130 135 140

Glu Lys Leu Thr Asp Asn Gly Thr Glu Phe Ser Val Lys Val Ser Leu
 145 150 155 160

Leu Glu Ile Tyr Asn Glu Glu Leu Phe Asp Leu Leu Asn Pro Ser Ser
 165 170 175

Asp Val Ser Glu Arg Leu Gln Met Phe Asp Asp Pro Arg Asn Lys Arg
 180 185 190

Gly Val Ile Ile Lys Gly Leu Glu Glu Ile Thr Val His Asn Lys Asp
 195 200 205

Glu Val Tyr Gln Ile Leu Glu Lys Gly Ala Ala Lys Arg Thr Thr Ala
210 215 220

Ala Thr Leu Met Asn Ala Tyr Ser Ser Arg Ser His Ser Val Phe Ser
225 230 235 240

Val Thr Ile His Met Lys Glu Thr Thr Ile Asp Gly Glu Glu Leu Val
245 250 255

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Gly Arg Ser Gly Ala Val Asp Lys Arg Ala Arg Glu Ala Gly Asn Ile
275 280 285

Asn Gln Ser Leu Leu Thr Leu Gly Arg Val Ile Thr Ala Leu Val Glu
290 295 300

Arg Thr Pro His Val Pro Tyr Arg Glu Ser Lys Leu Thr Arg Ile Leu
305 310 315 320

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

Ser Pro Ala Ser Leu Asn Leu Glu Glu Thr Leu Ser Thr Leu Glu Tyr
340 345 350

Ala His Arg Ala Lys Asn Ile Leu Asn Lys Pro Glu Val Asn Gln Lys
355 360 365

Leu Thr Lys Lys Ala Leu Ile Lys Glu Tyr Thr Glu Glu Ile Glu Arg
370 375 380

Leu Lys Arg Asp Leu Ala Ala Ala Arg Glu Lys Asn Gly Val Tyr Ile
385 390 395 400

Ser Glu Glu Asn Phe Arg Val Met Ser Gly Lys Leu Thr Val Gln Glu
405 410 415

Glu Gln Ile Val Glu Leu Ile Glu Lys Ile Gly Ala Val Glu Glu Glu
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Leu Asn Arg Val Thr Glu Leu Phe Met Asp Asn Lys Asn Glu Leu Asp
435 440 445

Gln Cys Lys Ser Asp Leu Gln Asn Lys Thr Gln Glu Leu Glu Thr Thr
450 455 460

Gln Lys His Leu Gln Glu Thr Lys Leu Gln Leu Val Lys Glu Glu Tyr
465 470 475 480

Ile Thr Ser Ala Leu Glu Ser Thr Glu Glu Lys Leu His Asp Ala Ala
Pge

485

490

495

Ser Lys Leu Leu₅₀₀ Asn Thr Val Glu Glu₅₀₅ Thr Thr Lys Asp Val₅₁₀ Ser Gly

Leu His Ser₅₁₅ Lys Leu Asp Arg Lys₅₂₀ Lys Ala Val Asp Gln₅₂₅ His Asn Ala

Glu Ala₅₃₀ Gln Asp Ile Phe Gly₅₃₅ Lys Asn Leu Asn Ser₅₄₀ Leu Phe Asn Asn

Met₅₄₅ Glu Glu Leu Ile Lys₅₅₀ Asp Gly Ser Ser Lys₅₅₅ Gln Lys Ala Met Leu₅₆₀

Glu Val His Lys Thr₅₆₅ Leu Phe Gly Asn Leu₅₇₀ Leu Ser Ser Ser Val₅₇₅ Ser

Ala Leu Asp Thr₅₈₀ Ile Thr Thr Val Ala₅₈₅ Leu Gly Ser Leu Thr₅₉₀ Ser Ile

Pro Glu Asn₅₉₅ Val Ser Thr His Val₆₀₀ Ser Gln Ile Phe Asn₆₀₅ Met Ile Leu

Lys Glu₆₁₀ Gln Ser Leu Ala Ala₆₁₅ Glu Ser Lys Thr Val₆₂₀ Leu Gln Glu Leu

Ile₆₂₅ Asn Val Leu Lys Thr₆₃₀ Asp Leu Leu Ser Ser₆₃₅ Leu Glu Met Ile Leu₆₄₀

Ser Pro Thr Val Val₆₄₅ Ser Ile Leu Lys Ile₆₅₀ Asn Ser Gln Leu Lys₆₅₅ His

Ile Phe Lys Thr₆₆₀ Ser Leu Thr Val Ala₆₆₅ Asp Lys Ile Glu Asp₆₇₀ Gln Lys

Lys Glu Leu₆₇₅ Asp Gly Phe Leu Ser₆₈₀ Ile Leu Cys Asn Asn₆₈₅ Leu His Glu

Leu Gln Glu Asn Thr Ile Cys₆₉₅ Ser Leu Val Glu Ser₇₀₀ Gln Lys Gln Cys

Gly Asn Leu Thr Glu Asp₇₁₀ Leu Lys Thr Ile Lys₇₁₅ Gln Thr His Ser Gln₇₂₀

Glu Leu Cys Lys Leu₇₂₅ Met Asn Leu Trp Thr₇₃₀ Glu Arg Phe Cys Ala₇₃₅ Leu

Glu Glu Lys Cys₇₄₀ Glu Asn Ile Gln Lys₇₄₅ Pro Leu Ser Ser Val₇₅₀ Gln Glu

Asn Ile Gln₇₅₅ Gln Lys Ser Lys Asp₇₆₀ Ile Val Asn Lys Met₇₆₅ Thr Phe His

Ser Gln Lys Phe Cys Ala Asp Ser Asp Gly Phe Ser Gln Glu Leu Arg
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 Asn Phe Asn Gln Glu Gly Thr Lys Leu Val Glu Glu Ser Val Lys His
 785 790 795 800
 Ser Asp Lys Leu Asn Gly Asn Leu Glu Lys Ile Ser Gln Glu Thr Glu
 805 810 815
 Gln Arg Cys Glu Ser Leu Asn Thr Arg Thr Val Tyr Phe Ser Glu Gln
 820 825 830
 Trp Val Ser Ser Leu Asn Glu Arg Glu Gln Glu Leu His Asn Leu Leu
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 Glu Val Val Ser Gln Cys Cys Glu Ala Ser Ser Ser Asp Ile Thr Glu
 850 855 860
 Lys Ser Asp Gly Arg Lys Ala Ala His Glu Lys Gln His Asn Ile Phe
 865 870 875 880
 Leu Asp Gln Met Thr Ile Asp Glu Asp Lys Leu Ile Ala Gln Asn Leu
 885 890 895
 Glu Leu Asn Glu Thr Ile Lys Ile Gly Leu Thr Lys Leu Asn Cys Phe
 900 905 910
 Leu Glu Gln Asp Leu Lys Leu Asp Ile Pro Thr Gly Thr Thr Pro Gln
 915 920 925
 Arg Lys Ser Tyr Leu Tyr Pro Ser Thr Leu Val Arg Thr Glu Pro Arg
 930 935 940
 Glu His Leu Leu Asp Gln Leu Lys Arg Lys Gln Pro Glu Leu Leu Met
 945 950 955 960
 Met Leu Asn Cys Ser Glu Asn Asn Lys Glu Glu Thr Ile Pro Asp Val
 965 970 975
 Asp Val Glu Glu Ala Val Leu Gly Gln Tyr Thr Glu Glu Pro Leu Ser
 980 985 990
 Gln Glu Pro Ser Val Asp Ala Gly Val Asp Cys Ser Ser Ile Gly Gly
 995 1000 1005
 Val Pro Phe Phe Gln His Lys Lys Ser His Gly Lys Asp Lys Glu
 1010 1015 1020
 Asn Arg Gly Ile Asn Thr Leu Glu Arg Ser Lys Val Glu Glu Thr
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Ile Asn Leu
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<212> DNA
<213> Homo sapiens

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 35 40 45

Lys Arg Arg Asn Val Ser Ser Phe Pro Asp Asp Ala Thr Ser Pro Leu
 50 55 60

Gln Glu Asn Arg Asn Asn Gln Gly Thr Val Asn Trp Ser Val Asp Asp
 65 70 75 80

Ile Val Lys Gly Ile Asn Ser Ser Asn Val Glu Asn Gln Leu Gln Ala
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Thr Gln Ala Ala Arg Lys Leu Leu Ser Arg Glu Lys Gln Pro Pro Ile
 100 105 110

Asp Asn Ile Ile Arg Ala Gly Leu Ile Pro Lys Phe Val Ser Phe Leu
 115 120 125

Gly Arg Thr Asp Cys Ser Pro Ile Gln Phe Glu Ser Ala Trp Ala Leu
 130 135 140

Thr Asn Ile Ala Ser Gly Thr Ser Glu Gln Thr Lys Ala Val Val Asp
 145 150 155 160

Gly Gly Ala Ile Pro Ala Phe Ile Ser Leu Leu Ala Ser Pro His Ala
 165 170 175

His Ile Ser Glu Gln Ala Val Trp Ala Leu Gly Asn Ile Ala Gly Asp
 180 185 190

Gly Ser Val Phe Arg Asp Leu Val Ile Lys Tyr Gly Ala Val Asp Pro
 195 200 205

Leu Leu Ala Leu Leu Ala Val Pro Asp Met Ser Ser Leu Ala Cys Gly
210 215 220

Tyr Leu Arg Asn Leu Thr Trp Thr Leu Ser Asn Leu Cys Arg Asn Lys
225 230 235 240

Asn Pro Ala Pro Pro Ile Asp Ala Val Glu Gln Ile Leu Pro Thr Leu
245 250 255

Val Arg Leu Leu His His Asp Asp Pro Glu Val Leu Ala Asp Thr Cys
260 265 270

Trp Ala Ile Ser Tyr Leu Thr Asp Gly Pro Asn Glu Arg Ile Gly Met
275 280 285

Val Val Lys Thr Gly Val Val Pro Gln Leu Val Lys Leu Leu Gly Ala
290 295 300

Ser Glu Leu Pro Ile Val Thr Pro Ala Leu Arg Ala Ile Gly Asn Ile
305 310 315 320

Val Thr Gly Thr Asp Glu Gln Thr Gln Val Val Ile Asp Ala Gly Ala
325 330 335

Leu Ala Val Phe Pro Ser Leu Leu Thr Asn Pro Lys Thr Asn Ile Gln
340 345 350

Lys Glu Ala Thr Trp Thr Met Ser Asn Ile Thr Ala Gly Arg Gln Asp
355 360 365

Gln Ile Gln Gln Val Val Asn His Gly Leu Val Pro Phe Leu Val Ser
370 375 380

Val Leu Ser Lys Ala Asp Phe Lys Thr Gln Lys Glu Ala Val Trp Ala
385 390 395 400

Val Thr Asn Tyr Thr Ser Gly Gly Thr Val Glu Gln Ile Val Tyr Leu
405 410 415

Val His Cys Gly Ile Ile Glu Pro Leu Met Asn Leu Leu Thr Ala Lys
420 425 430

Asp Thr Lys Ile Ile Leu Val Ile Leu Asp Ala Ile Ser Asn Ile Phe
435 440 445

Gln Ala Ala Glu Lys Leu Gly Glu Thr Glu Lys Leu Ser Ile Met Ile
450 455 460

Glu Glu Cys Gly Gly Leu Asp Lys Ile Glu Ala Leu Gln Asn His Glu
465 470 475 480

Asn Glu Ser Val Tyr Lys Ala Ser Leu Ser Leu Ile Glu Lys Tyr Phe
Pge

485

490

495

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<400> 32

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

385		390		395		400									
Thr	Gln	Thr	Val	Asn 405	Leu	Arg	Asp	Cys	Glu 410	Tyr	Cys	Gln	Tyr	His 415	Val
Gln	Ala	Gln	Tyr 420	Lys	Lys	Leu	Ser	Ala 425	Lys	Arg	Ala	Asp	Leu 430	Gln	Ser
Thr	Phe	Ser 435	Gly	Gly	Arg	Ile	Pro 440	Lys	Lys	Phe	Ala	Arg 445	Arg	Gly	Thr
Ser	Leu 450	Lys	Glu	Arg	Leu	Cys 455	Gln	Asp	Gly	Phe	Tyr 460	Tyr	Gly	Gly	Val
Ser 465	Ser	Ala	Ser	Tyr	Ala 470	Ala	Ser	Ile	Ala	Ala 475	Ala	Val	Ala	Pro	Lys 480
Lys	Lys	Ile	Gln	Thr 485	Thr	Leu	Ser	Asn	Leu 490	Val	Val	Lys	Gly	Thr 495	Asn
Leu	Ile	Ile	Gln 500	Glu	Thr	Arg	Gln	Lys 505	Leu	Gly	Ile	Pro	Gln 510	Lys	Ser
Leu	Ser	Cys 515	Ser	Glu	Glu	Phe	Lys 520	Glu	Leu	Met	Asp	Leu 525	Pro	Thr	Cys
Gly	Ala 530	Arg	Asn	Leu	Lys	Gln 535	His	Leu	Ala	Lys	Ala 540	Thr	Ala	Ser	Gly
Ile 545	Met	Gly	Ser	Pro	Lys 550	Pro	Ala	Ile	Lys	Ser 555	Ile	Ser	Ala	Ser	Ala 560
Leu	Leu	Lys	Gln 565	Gln	Lys	Gln	Arg	Met	Leu 570	Glu	Met	Arg	Arg	Arg 575	Lys
Ser	Glu	Glu	Ile 580	Gln	Lys	Arg	Phe	Leu 585	Gln	Ser	Ser	Ser	Glu 590	Val	Glu
Ser	Pro	Ala 595	Val	Pro	Ser	Ser	Ser 600	Arg	Gln	Pro	Pro	Ala 605	Gln	Pro	Pro
Arg	Thr 610	Gly	Ser	Glu	Phe	Pro 615	Arg	Leu	Glu	Gly	Ala 620	Pro	Ala	Thr	Met
Thr 625	Pro	Lys	Leu	Gly	Arg 630	Gly	Val	Leu	Glu	Gly 635	Asp	Asp	Val	Leu	Phe 640
Tyr	Asp	Glu	Ser	Pro 645	Pro	Pro	Arg	Pro	Lys 650	Leu	Ser	Ala	Leu	Ala 655	Glu
Ala	Lys	Lys	Leu 660	Ala	Ala	Ile	Thr	Lys 665	Leu	Arg	Ala	Lys	Gly 670	Gln	Val

Leu Thr Lys Thr Asn Pro Asn Ser Ile Lys Lys Lys Gln Lys Asp Pro
675 680 685

Gln Asp Ile Leu Glu Val Lys Glu Arg Val Glu Lys Asn Thr Met Phe
690 695 700

Ser Ser Gln Ala Glu Asp Glu Leu Glu Pro Ala Arg Lys Lys Arg Arg
705 710 715 720

Glu Gln Leu Ala Tyr Leu Glu Ser Glu Glu Phe Gln Lys Ile Leu Lys
725 730 735

Ala Lys Ser Lys His Thr Gly Ile Leu Lys Glu Ala Glu Ala Glu Met
740 745 750

Gln Glu Arg Tyr Phe Glu Pro Leu Val Lys Lys Glu Gln Met Glu Glu
755 760 765

Lys Met Arg Asn Ile Arg Glu Val Lys Cys Arg Val Val Thr Cys Lys
770 775 780

Thr Cys Ala Tyr Thr His Phe Lys Leu Leu Glu Thr Cys Val Ser Glu
785 790 795 800

Gln His Glu Tyr His Trp His Asp Gly Val Lys Arg Phe Phe Lys Cys
805 810 815

Pro Cys Gly Asn Arg Ser Ile Ser Leu Asp Arg Leu Pro Asn Lys His
820 825 830

Cys Ser Asn Cys Gly Leu Tyr Lys Trp Glu Arg Asp Gly Met Leu Lys
835 840 845

Glu Lys Thr Gly Pro Lys Ile Gly Gly Glu Thr Leu Leu Pro Arg Gly
850 855 860

Glu Glu His Ala Lys Phe Leu Asn Ser Leu Lys
865 870 875

<210> 33
<211> 2501
<212> DNA
<213> Homo sapiens

<400> 33
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taaacttgca agaggactat gaaagattat gatgaacttc tcaaataatta tgaattacat 180
gaaactattg ggacaggtgg ctttgcaaag gtcaaacttg cctgccatat ctttactgga 240
gagatggtag ctataaaaaat catggataaaa aacacactag ggagtgattt gccccggatc 300
aaaacggaga ttgaggcctt gaagaacctg agacatcagc atatatgtca actctaccat 360

gtgctagaga	cagccaacaa	aatattcatg	gttcttgagt	actgccctgg	aggagagctg	420
tttgactata	taatttccca	ggatcgccctg	tcagaagagg	agacccgggt	tgtcttccgt	480
cagatagtat	ctgctgttgc	ttatgtgcac	agccagggct	atgctcacag	ggacctcaag	540
ccagaaaatt	tgctgtttga	tgaatatcat	aaattaaagc	tgattgactt	tggctctctgt	600
gcaaaaccca	agggttaacaa	ggattaccat	ctacagacat	gctgtgggag	tctggcttat	660
gcagcacctg	agttaatata	aggcaaatca	tatcttggat	cagaggcaga	tgtttgagc	720
atgggcatac	tgttatatgt	tcttatgtgt	ggatttctac	catttgatga	tgataatgta	780
atggctttat	acaagaagat	tatgagagga	aaatatgatg	ttcccaagtg	gctctctccc	840
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aaaaatctat	tgaaccatcc	ctggatcatg	caagattaca	actatcctgt	tgagtggcaa	960
agcaagaatc	cttttattca	cctcgatgat	gattgcgtaa	cagaactttc	tgtacatcac	1020
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gctacctatc	ttctgcttct	agccaagaag	gctcggggaa	aaccagttcg	tttaaggctt	1140
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aagtactgga	cagaatcaaa	tgggggtggaa	tctaaatcat	taactccagc	cttatgcaga	1380
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aatgaagagt	actttatgtt	tcctgagcca	aagactccag	ttaataagaa	ccagcataag	1500
agagaaatac	tcactacgcc	aaatcgttac	actacaccct	caaaagctag	aaaccagtgc	1560
ctgaaagaaa	ctccaattaa	aataccagta	aattcaacag	gaacagacaa	gttaatgaca	1620
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atggaggaga	ctccaaaaag	aaaggagacc	aaagtgtttg	ggagccttga	aagggggttg	1740
gataaggtta	tcactgtgct	caccaggagc	aaaaggaagg	gttctgccag	agacgggccc	1800
agaagactaa	agcttcacta	taatgtgact	acaactagat	tagtgaatcc	agatcaactg	1860
ttgaatgaaa	taatgtctat	tcttccaaag	aagcatgttg	actttgtaca	aaagggttat	1920
acactgaagt	gtcaaacaca	gtcagatttt	gggaaagtga	caatgcaatt	tgaattagaa	1980
gtgtgccagc	ttcaaaaacc	cgatgtggtg	ggtatcagga	ggcagcggct	taagggcgat	2040
gcctggggtt	acaaaagatt	agtggaagac	atcctatcta	gctgcaaggt	ataattgatg	2100
gattcttcca	tcctgccgga	tgagtgtggg	tgtgatacag	cctacataaa	gactgttatg	2160
atcgctttga	ttttaaggtt	cattggaact	accaacttgt	ttctaaagag	ctatcttaag	2220
accaatatct	ctttgttttt	aaacaaaaga	tattattttg	tgtatgaatc	taaatcaagc	2280
ccatctgtca	ttatgttact	gtctttttta	atcatgtggt	tttgatatatt	aataattgtt	2340
gactttctta	gattcacttc	catatgtgaa	tgtaagctct	taactatgtc	tctttgtaat	2400
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aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa a

2501

<210> 34
<211> 651
<212> PRT
<213> Homo sapiens

<400> 34

Met Lys Asp Tyr Asp Glu Leu Leu Lys Tyr Tyr Glu Leu His Glu Thr
1 5 10 15

Ile Gly Thr Gly Gly Phe Ala Lys Val Lys Leu Ala Cys His Ile Leu
20 25 30

Thr Gly Glu Met Val Ala Ile Lys Ile Met Asp Lys Asn Thr Leu Gly
35 40 45

Ser Asp Leu Pro Arg Ile Lys Thr Glu Ile Glu Ala Leu Lys Asn Leu
50 55 60

Arg His Gln His Ile Cys Gln Leu Tyr His Val Leu Glu Thr Ala Asn
65 70 75 80

Lys Ile Phe Met Val Leu Glu Tyr Cys Pro Gly Gly Glu Leu Phe Asp
85 90 95

Tyr Ile Ile Ser Gln Asp Arg Leu Ser Glu Glu Glu Thr Arg Val Val
100 105 110

Phe Arg Gln Ile Val Ser Ala Val Ala Tyr Val His Ser Gln Gly Tyr
115 120 125

Ala His Arg Asp Leu Lys Pro Glu Asn Leu Leu Phe Asp Glu Tyr His
130 135 140

Lys Leu Lys Leu Ile Asp Phe Gly Leu Cys Ala Lys Pro Lys Gly Asn
145 150 155 160

Lys Asp Tyr His Leu Gln Thr Cys Cys Gly Ser Leu Ala Tyr Ala Ala
165 170 175

Pro Glu Leu Ile Gln Gly Lys Ser Tyr Leu Gly Ser Glu Ala Asp Val
180 185 190

Trp Ser Met Gly Ile Leu Leu Tyr Val Leu Met Cys Gly Phe Leu Pro
195 200 205

Phe Asp Asp Asp Asn Val Met Ala Leu Tyr Lys Lys Ile Met Arg Gly
210 215 220

Lys Tyr Asp Val Pro Lys Trp Leu Ser Pro Ser Ser Ile Leu Leu Leu
225 230 235 240

Gln Gln Met Leu Gln Val Asp Pro Lys Lys Arg Ile Ser Met Lys Asn
 245 250 255
 Leu Leu Asn His Pro Trp Ile Met Gln Asp Tyr Asn Tyr Pro Val Glu
 260 265 270
 Trp Gln Ser Lys Asn Pro Phe Ile His Leu Asp Asp Asp Cys Val Thr
 275 280 285
 Glu Leu Ser Val His His Arg Asn Asn Arg Gln Thr Met Glu Asp Leu
 290 295 300
 Ile Ser Leu Trp Gln Tyr Asp His Leu Thr Ala Thr Tyr Leu Leu Leu
 305 310 315 320
 Leu Ala Lys Lys Ala Arg Gly Lys Pro Val Arg Leu Arg Leu Ser Ser
 325 330 335
 Phe Ser Cys Gly Gln Ala Ser Ala Thr Pro Phe Thr Asp Ile Lys Ser
 340 345 350
 Asn Asn Trp Ser Leu Glu Asp Val Thr Ala Ser Asp Lys Asn Tyr Val
 355 360 365
 Ala Gly Leu Ile Asp Tyr Asp Trp Cys Glu Asp Asp Leu Ser Thr Gly
 370 375 380
 Ala Ala Thr Pro Arg Thr Ser Gln Phe Thr Lys Tyr Trp Thr Glu Ser
 385 390 395 400
 Asn Gly Val Glu Ser Lys Ser Leu Thr Pro Ala Leu Cys Arg Thr Pro
 405 410 415
 Ala Asn Lys Leu Lys Asn Lys Glu Asn Val Tyr Thr Pro Lys Ser Ala
 420 425 430
 Val Lys Asn Glu Glu Tyr Phe Met Phe Pro Glu Pro Lys Thr Pro Val
 435 440 445
 Asn Lys Asn Gln His Lys Arg Glu Ile Leu Thr Thr Pro Asn Arg Tyr
 450 455 460
 Thr Thr Pro Ser Lys Ala Arg Asn Gln Cys Leu Lys Glu Thr Pro Ile
 465 470 475 480
 Lys Ile Pro Val Asn Ser Thr Gly Thr Asp Lys Leu Met Thr Gly Val
 485 490 495
 Ile Ser Pro Glu Arg Arg Cys Arg Ser Val Glu Leu Asp Leu Asn Gln
 500 505 510
 Ala His Met Glu Glu Thr Pro Lys Arg Lys Gly Ala Lys Val Phe Gly
 Pge

515	520	525
Ser Leu Glu Arg Gly Leu Asp Lys Val Ile Thr Val Leu Thr Arg Ser		
530	535	540
Lys Arg Lys Gly Ser Ala Arg Asp Gly Pro Arg Arg Leu Lys Leu His		
545	550	555
Tyr Asn Val Thr Thr Thr Arg Leu Val Asn Pro Asp Gln Leu Leu Asn		
	565	570
Glu Ile Met Ser Ile Leu Pro Lys Lys His Val Asp Phe Val Gln Lys		
	580	585
Gly Tyr Thr Leu Lys Cys Gln Thr Gln Ser Asp Phe Gly Lys Val Thr		
	595	600
Met Gln Phe Glu Leu Glu Val Cys Gln Leu Gln Lys Pro Asp Val Val		
	610	615
Gly Ile Arg Arg Gln Arg Leu Lys Gly Asp Ala Trp Val Tyr Lys Arg		
625	630	635
Leu Val Glu Asp Ile Leu Ser Ser Cys Lys Val		
	645	650

<210> 35
 <211> 728
 <212> DNA
 <213> Homo sapiens

<400> 35	
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ctgggggtctg gaccttcaat caaagcctta gatgggagat ctcaagtttc aacaccacgt	180
tttggcaaaa cgttcgatgc cccaccagcc ttacctaaag ctactagaaa ggctttggga	240
actgtcaaca gagctacaga aaagtctgta aagaccaagg gacccctcaa acaaaaacag	300
ccaagctttt ctgccaaaaa gatgactgag aagactgtta aagcaaaaag ctctgttcct	360
gcctcagatg atgcctatcc agaaatagaa aaattctttc ctttcaatcc tctagacttt	420
gagagttttg acctgcctga agagcaccag attgcgcacc tccccttgag tggagtgcct	480
ctcatgatcc ttgacgagga gagagagctt gaaaagctgt ttcagctggg ccccccttca	540
cctgtgaaga tgccctctcc accatgggaa tccaatctgt tgcagtctcc ttcaagcatt	600
ctgtcgaccc tggatgttga attgccacct gtttgctgtg acatagatat ttaaatttct	660
tagtgcttca gagtttgtgt gtatttgtat taataaagca ttcttcaaca gaaaaaaaaa	720
aaaaaaaaa	728

<210> 36
 <211> 202

<212> PRT
<213> Homo sapiens

<400> 36

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

Lys Ala Leu Asp Gly Arg Ser Gln Val Ser Thr Pro Arg Phe Gly Lys
35 40 45

Thr Phe Asp Ala Pro Pro Ala Leu Pro Lys Ala Thr Arg Lys Ala Leu
50 55 60

Gly Thr Val Asn Arg Ala Thr Glu Lys Ser Val Lys Thr Lys Gly Pro
65 70 75 80

Leu Lys Gln Lys Gln Pro Ser Phe Ser Ala Lys Lys Met Thr Glu Lys
85 90 95

Thr Val Lys Ala Lys Ser Ser Val Pro Ala Ser Asp Asp Ala Tyr Pro
100 105 110

Glu Ile Glu Lys Phe Phe Pro Phe Asn Pro Leu Asp Phe Glu Ser Phe
115 120 125

Asp Leu Pro Glu Glu His Gln Ile Ala His Leu Pro Leu Ser Gly Val
130 135 140

Pro Leu Met Ile Leu Asp Glu Glu Arg Glu Leu Glu Lys Leu Phe Gln
145 150 155 160

Leu Gly Pro Pro Ser Pro Val Lys Met Pro Ser Pro Pro Trp Glu Ser
165 170 175

Asn Leu Leu Gln Ser Pro Ser Ser Ile Leu Ser Thr Leu Asp Val Glu
180 185 190

Leu Pro Pro Val Cys Cys Asp Ile Asp Ile
195 200

<210> 37
<211> 3326
<212> DNA
<213> Homo sapiens

<400> 37

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tgctctgccg ttgggtgagg cgcgagcgga agtgaagggg ggcccagggt gggccaggct 120
gactgaatgt atctcctagc tatggactaa ataatacatg gggggaaata aacaagtatt 180
catgagggtg aaaatgtgac ccagcaggaa aattacaact attttcaatt gacgttgaat 240
Pge

agggagagcc aaaggaaatc aacattttgaa ttgactaccc aatgtcctgc ccctgtttct	300
gtcctgtagc acttaggaaa gatggatact atgatgctga atgtgcggaa tctgtttgag	360
cagcttgtgc gccgggtgga gattctcagt gaaggaaatg aagtccaatt tatccagttg	420
gcgaaggact ttgaggattt ccgtaaaaag tggcagagga ctgaccatga gctggggaaa	480
tacaaggatc ttttgatgaa agcagagact gagcgaagtg ctctggatgt taagctgaag	540
catgcacgta atcaggtgga tgtagagatc aaacgggagac agagagctga ggctgactgc	600
gaaaagctgg aacgacagat tcagctgatt cgagagatgc tcatgtgtga cacatctggc	660
agcattcaac taagcgagga gcaaaaatca gctctggctt ttctcaacag aggccaacca	720
tccagcagca atgctgggaa caaaagacta tcaaccattg atgaatctgg ttccatttta	780
tcagatatca gctttgacaa gactgatgaa tctactggatt gggactcttc tttggtgaag	840
actttcaaac tgaagaagag agaaaagagg cgctctacta gccgacagtt tgttgatggt	900
ccccctggac ctgtaaagaa aactcgttcc attggctctg cagtagacca ggggaatgaa	960
tccatagttg caaaaactac agtgactgtt cccaatgatg gcgggccccat cgaagctgtg	1020
tccactattg agactgtgcc atattggacc aggagccgaa ggaaaacagg tactttacaa	1080
ccttggaaac gtgactccac cctgaacagc aggagctgg agccaagaac tgagacagac	1140
agtgtgggca cgccacagag taatggaggg atgcgcctgc atgactttgt ttctaagacg	1200
gttattaaac ctgaatcctg tgttccatgt ggaaagcgga taaaatttgg caaattatct	1260
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ccctgcattc ctaccctgat aggaacacct gtcaagattg gagagggaat gctggcagac	1380
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gagcaaagag gtctgactga gacaggcctg tataggatct ctggctgtga ccgcacagta	1500
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gatatccatg ctatctgtag ccttctaata gactttcttc gaaacctcaa agaacctctt	1620
ctgacctttc gccttaacag agcctttatg gaagcagcag aaatcacaga tgaagacaac	1680
agcatagctg ccatgtacca agctgttggg gaactgcccc aggccaacag ggacacatta	1740
gctttcctca tgattcactt gcagagagtg gctcagagtc cacatactaa aatggatgtt	1800
gccaatctgg ctaaagtctt tggccctaca atagtggccc atgctgtgcc caatccagac	1860
ccagtgacaa tgttacagga catcaagcgt caaccaagg tggttgagcg cctgctttcc	1920
ttgcctctgg agtattggag tcagttcatg atggtggagc aagagaacat tgacccccta	1980
catgtcattg aaaactcaaa tgcccttttca acaccacaga caccagatat taaagtgagt	2040
ttactgggac ctgtgaccac tcctgaacat cagcttctca agactccttc atctagttcc	2100
ctgtcacaga gagtccgttc caccctcacc aagaacactc ctagatttgg gagcaaaagc	2160
aagtctgcca ctaacctagg acgacaaggc aacttttttg cttctccaat gctcaagtga	2220
agtcacatct gcctgttact tcccagcatt gactgactat aagaaaggac acatctgtac	2280
tctgctctgc agcctcctgt actcattact acttttagca ttctccaggc ttttactcaa	2340

gtttaattgt gcatgagggt tttattaaaa ctatatatat ctccccctcc ttctcctcaa 2400
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 tccaggggta gaaggggttag tatggaattg gttgtgattc tttttgggga aggggggttat 2520
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 gaactgattt ccgtgagaca atgacagaaa ccctacctat ctgataagat tagcttgtct 2640
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 gtggagcca acttctaaag gtcaatatat catcctttgg catcccaact aacaataaag 3060
 agtaggctat aagggaagat tgtcaatatt ttgtggtaag aaaagctaca gtcatttttt 3120
 ctttgcactt tggatgctga aatttttccc atggaacata gccacatcta gatagatgtg 3180
 agctttttct tctgttaaaa ttattcttaa tgtctgtaaa aacgattttc ttctgtagaa 3240
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 aaagtaaata gctttttcaa aatgaa 3326

<210> 38
 <211> 632
 <212> PRT
 <213> Homo sapiens

<400> 38

Met Asp Thr Met Met Leu Asn Val Arg Asn Leu Phe Glu Gln Leu Val
 1 5 10 15
 Arg Arg Val Glu Ile Leu Ser Glu Gly Asn Glu Val Gln Phe Ile Gln
 20 25 30
 Leu Ala Lys Asp Phe Glu Asp Phe Arg Lys Lys Trp Gln Arg Thr Asp
 35 40 45
 His Glu Leu Gly Lys Tyr Lys Asp Leu Leu Met Lys Ala Glu Thr Glu
 50 55 60
 Arg Ser Ala Leu Asp Val Lys Leu Lys His Ala Arg Asn Gln Val Asp
 65 70 75 80
 Val Glu Ile Lys Arg Arg Gln Arg Ala Glu Ala Asp Cys Glu Lys Leu
 85 90 95
 Glu Arg Gln Ile Gln Leu Ile Arg Glu Met Leu Met Cys Asp Thr Ser
 100 105 110

Gly Ser Ile Gln Leu Ser Glu Glu Gln Lys Ser Ala Leu Ala Phe Leu
 115 120 125
 Asn Arg Gly Gln Pro Ser Ser Ser Asn Ala Gly Asn Lys Arg Leu Ser
 130 135 140
 Thr Ile Asp Glu Ser Gly Ser Ile Leu Ser Asp Ile Ser Phe Asp Lys
 145 150 155 160
 Thr Asp Glu Ser Leu Asp Trp Asp Ser Ser Leu Val Lys Thr Phe Lys
 165 170 175
 Leu Lys Lys Arg Glu Lys Arg Arg Ser Thr Ser Arg Gln Phe Val Asp
 180 185 190
 Gly Pro Pro Gly Pro Val Lys Lys Thr Arg Ser Ile Gly Ser Ala Val
 195 200 205
 Asp Gln Gly Asn Glu Ser Ile Val Ala Lys Thr Thr Val Thr Val Pro
 210 215 220
 Asn Asp Gly Gly Pro Ile Glu Ala Val Ser Thr Ile Glu Thr Val Pro
 225 230 235 240
 Tyr Trp Thr Arg Ser Arg Arg Lys Thr Gly Thr Leu Gln Pro Trp Asn
 245 250 255
 Ser Asp Ser Thr Leu Asn Ser Arg Gln Leu Glu Pro Arg Thr Glu Thr
 260 265 270
 Asp Ser Val Gly Thr Pro Gln Ser Asn Gly Gly Met Arg Leu His Asp
 275 280 285
 Phe Val Ser Lys Thr Val Ile Lys Pro Glu Ser Cys Val Pro Cys Gly
 290 295 300
 Lys Arg Ile Lys Phe Gly Lys Leu Ser Leu Lys Cys Arg Asp Cys Arg
 305 310 315 320
 Val Val Ser His Pro Glu Cys Arg Asp Arg Cys Pro Leu Pro Cys Ile
 325 330 335
 Pro Thr Leu Ile Gly Thr Pro Val Lys Ile Gly Glu Gly Met Leu Ala
 340 345 350
 Asp Phe Val Ser Gln Thr Ser Pro Met Ile Pro Ser Ile Val Val His
 355 360 365
 Cys Val Asn Glu Ile Glu Gln Arg Gly Leu Thr Glu Thr Gly Leu Tyr
 370 375 380
 Arg Ile Ser Gly Cys Asp Arg Thr Val Lys Glu Leu Lys Glu Lys Phe
 Pge

385 390 395 400
 Leu Arg Val Lys Thr Val Pro Leu Leu Ser Lys Val Asp Asp Ile His
 405 410 415
 Ala Ile Cys Ser Leu Leu Lys Asp Phe Leu Arg Asn Leu Lys Glu Pro
 420 425 430
 Leu Leu Thr Phe Arg Leu Asn Arg Ala Phe Met Glu Ala Ala Glu Ile
 435 440 445
 Thr Asp Glu Asp Asn Ser Ile Ala Ala Met Tyr Gln Ala Val Gly Glu
 450 455 460
 Leu Pro Gln Ala Asn Arg Asp Thr Leu Ala Phe Leu Met Ile His Leu
 465 470 475 480
 Gln Arg Val Ala Gln Ser Pro His Thr Lys Met Asp Val Ala Asn Leu
 485 490 495
 Ala Lys Val Phe Gly Pro Thr Ile Val Ala His Ala Val Pro Asn Pro
 500 505 510
 Asp Pro Val Thr Met Leu Gln Asp Ile Lys Arg Gln Pro Lys Val Val
 515 520 525
 Glu Arg Leu Leu Ser Leu Pro Leu Glu Tyr Trp Ser Gln Phe Met Met
 530 535 540
 Val Glu Gln Glu Asn Ile Asp Pro Leu His Val Ile Glu Asn Ser Asn
 545 550 555 560
 Ala Phe Ser Thr Pro Gln Thr Pro Asp Ile Lys Val Ser Leu Leu Gly
 565 570 575
 Pro Val Thr Thr Pro Glu His Gln Leu Leu Lys Thr Pro Ser Ser Ser
 580 585 590
 Ser Leu Ser Gln Arg Val Arg Ser Thr Leu Thr Lys Asn Thr Pro Arg
 595 600 605
 Phe Gly Ser Lys Ser Lys Ser Ala Thr Asn Leu Gly Arg Gln Gly Asn
 610 615 620
 Phe Phe Ala Ser Pro Met Leu Lys
 625 630

<210> 39
 <211> 829
 <212> DNA
 <213> Homo sapiens

<400> 39
 cccccgagc gccgctccgg ctgcaccgcg ctcgctccga gtttcaggct cgtgctaagc
 Pge

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cacgatgaga tgttctccga catctacaag atccgggaga tcgcgggacgg gttgtgcctg	180
gaggtggagg ggaagatggt cagtaggaca gaaggtaaca ttgatgactc gctcattggt	240
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gtcgatattg tcatgaacca tcacctgcag gaaacaagtt tcacaaaaga agcctacaag	360
aagtacatca aagattacat gaaatcaatc aaagggaac ttgaagaaca gagaccagaa	420
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gaaaaatggt aacaaatgtg gcaattatct tggatctatc acctgtcatc ataactggct	660
tctgcttgtc atccacacaa caccaggact taagacaaat gggactgatg tcatcttgag	720
ctcttcattt attttgactg tgatttatct ggagtggagg cattgttttt aagaaaaaca	780
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<210> 40
 <211> 172
 <212> PRT
 <213> Homo sapiens

<400> 40

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Ile Tyr Lys Ile Arg Glu Ile Ala Asp Gly Leu Cys Leu Glu Val Glu
 20 25 30

Gly Lys Met Val Ser Arg Thr Glu Gly Asn Ile Asp Asp Ser Leu Ile
 35 40 45

Gly Gly Asn Ala Ser Ala Glu Gly Pro Glu Gly Glu Gly Thr Glu Ser
 50 55 60

Thr Val Ile Thr Gly Val Asp Ile Val Met Asn His His Leu Gln Glu
 65 70 75 80

Thr Ser Phe Thr Lys Glu Ala Tyr Lys Lys Tyr Ile Lys Asp Tyr Met
 85 90 95

Lys Ser Ile Lys Gly Lys Leu Glu Glu Gln Arg Pro Glu Arg Val Lys
 100 105 110

Pro Phe Met Thr Gly Ala Ala Glu Gln Ile Lys His Ile Leu Ala Asn
 115 120 125

Phe Lys Asn Tyr Gln Phe Phe Ile Gly Glu Asn Met Asn Pro Asp Gly
 130 135 140

Met Val Ala Leu Leu Asp Tyr Arg Glu Asp Gly Val Thr Pro Tyr Met
 145 150 155 160

Ile Phe Phe Lys Asp Gly Leu Glu Met Glu Lys Cys
 165 170

<210> 41
 <211> 3685
 <212> DNA
 <213> Homo sapiens

<400> 41
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 aacgatactg aatgagtccc gcggcggggt ggctcgcgt tcgttgtcag atctgaggcg 240
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 ctgggaaaaa cctgctcttc tgcgttaagt gggagacaat gtcacaagtt aaaagctctt 720
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 ctcaaaacat agattcatgg tttgaggaga aggccaattt ggagaataag ttactgggga 840
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 gaaagcatcc ttcattctct gcccgagtga ctaagggatg taccattgtt aagcctttca 1620
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 Pge

cacagcaagt tgaagacttc cataaacgaa cccctaacag atatcatttg aggagcaaga	1740
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aagatgttgt ggggtgttct gaaaagaagg tacttccaat caccgtcccc aagtcaccag	2160
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caagtgacca gcctctgact gtgcctgtat ctcccaaatt ctccactcga ttccactgct	2940
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gtagttactt cctttaaacc atcagccggc cttttatatg ggtcttcact ctgactagaa	3240
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aggctctggg tggggctgcc gttaaggcac gttctttcct tactggtgct gataacaaca	3600
gggaaccgtg cagtgtgcat ttttaagacct ggcctggaat aaatacgttt tgtctttccc	3660
tcaaaaaaaaa aaaaaaaaaa aaaaa	3685

<210> 42
 <211> 747
 <212> PRT
 <213> Homo sapiens

<400> 42

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

Ser Trp Phe Glu Glu Lys Ala Asn Leu Glu Asn Lys Leu Leu Gly Lys
 35 40 45

Asn Gly Thr Gly Gly Leu Phe Gln Gly Lys Thr Pro Leu Arg Lys Ala
 50 55 60

Asn Leu Gln Gln Ala Ile Val Thr Pro Leu Lys Pro Val Asp Asn Thr
 65 70 75 80

Tyr Tyr Lys Glu Ala Glu Lys Glu Asn Leu Val Glu Gln Ser Ile Pro
 85 90 95

Ser Asn Ala Cys Ser Ser Leu Glu Val Glu Ala Ala Ile Ser Arg Lys
 100 105 110

Thr Pro Ala Gln Pro Gln Arg Arg Ser Leu Arg Leu Ser Ala Gln Lys
 115 120 125

Asp Leu Glu Gln Lys Glu Lys His His Val Lys Met Lys Ala Lys Arg
 130 135 140

Cys Ala Thr Pro Val Ile Ile Asp Glu Ile Leu Pro Ser Lys Lys Met
 145 150 155 160

Lys Val Ser Asn Asn Lys Lys Lys Pro Glu Glu Glu Gly Ser Ala His
 165 170 175

Gln Asp Thr Ala Glu Lys Asn Ala Ser Ser Pro Glu Lys Ala Lys Gly
 180 185 190

Arg His Thr Val Pro Cys Met Pro Pro Ala Lys Gln Lys Phe Leu Lys
 195 200 205

Ser Thr Glu Glu Gln Glu Leu Glu Lys Ser Met Lys Met Gln Gln Glu
 210 215 220

Val Val Glu Met Arg Lys Lys Asn Glu Glu Phe Lys Lys Leu Ala Leu
 225 230 235 240

Ala Gly Ile Gly Gln Pro Val Lys Lys Ser Val Ser Gln Val Thr Lys
 245 250 255

Ser Val Asp Phe His Phe Arg Thr Asp Glu Arg Ile Lys Gln His Pro
260 265 270

Lys Asn Gln Glu Glu Tyr Lys Glu Val Asn Phe Thr Ser Glu Leu Arg
275 280 285

Lys His Pro Ser Ser Pro Ala Arg Val Thr Lys Gly Cys Thr Ile Val
290 295 300

Lys Pro Phe Asn Leu Ser Gln Gly Lys Lys Arg Thr Phe Asp Glu Thr
305 310 315 320

Val Ser Thr Tyr Val Pro Leu Ala Gln Gln Val Glu Asp Phe His Lys
325 330 335

Arg Thr Pro Asn Arg Tyr His Leu Arg Ser Lys Lys Asp Asp Ile Asn
340 345 350

Leu Leu Pro Ser Lys Ser Ser Val Thr Lys Ile Cys Arg Asp Pro Gln
355 360 365

Thr Pro Val Leu Gln Thr Lys His Arg Ala Arg Ala Val Thr Cys Lys
370 375 380

Ser Thr Ala Glu Leu Glu Ala Glu Glu Leu Glu Lys Leu Gln Gln Tyr
385 390 395 400

Lys Phe Lys Ala Arg Glu Leu Asp Pro Arg Ile Leu Glu Gly Gly Pro
405 410 415

Ile Leu Pro Lys Lys Pro Pro Val Lys Pro Pro Thr Glu Pro Ile Gly
420 425 430

Phe Asp Leu Glu Ile Glu Lys Arg Ile Gln Glu Arg Glu Ser Lys Lys
435 440 445

Lys Thr Glu Asp Glu His Phe Glu Phe His Ser Arg Pro Cys Pro Thr
450 455 460

Lys Ile Leu Glu Asp Val Val Gly Val Pro Glu Lys Lys Val Leu Pro
465 470 475 480

Ile Thr Val Pro Lys Ser Pro Ala Phe Ala Leu Lys Asn Arg Ile Arg
485 490 495

Met Pro Thr Lys Glu Asp Glu Glu Glu Asp Glu Pro Val Val Ile Lys
500 505 510

Ala Gln Pro Val Pro His Tyr Gly Val Pro Phe Lys Pro Gln Ile Pro
515 520 525

Glu Ala Arg Thr Val Glu Ile Cys Pro Phe Ser Phe Asp Ser Arg Asp
Pge

530

535

540

Lys Glu Arg Gln Leu Gln Lys Glu Lys Lys Ile Lys Glu Leu Gln Lys
 545 550 555 560

Gly Glu Val Pro Lys Phe Lys Ala Leu Pro Leu Pro His Phe Asp Thr
 565 570 575

Ile Asn Leu Pro Glu Lys Lys Val Lys Asn Val Thr Gln Ile Glu Pro
 580 585 590

Phe Cys Leu Glu Thr Asp Arg Arg Gly Ala Leu Lys Ala Gln Thr Trp
 595 600 605

Lys His Gln Leu Glu Glu Glu Leu Arg Gln Gln Lys Glu Ala Ala Cys
 610 615 620

Phe Lys Ala Arg Pro Asn Thr Val Ile Ser Gln Glu Pro Phe Val Pro
 625 630 635 640

Lys Lys Glu Lys Lys Ser Val Ala Glu Gly Leu Ser Gly Ser Leu Val
 645 650 655

Gln Glu Pro Phe Gln Leu Ala Thr Glu Lys Arg Ala Lys Glu Arg Gln
 660 665 670

Glu Leu Glu Lys Arg Met Ala Glu Val Glu Ala Gln Lys Ala Gln Gln
 675 680 685

Leu Glu Glu Ala Arg Leu Gln Glu Glu Glu Gln Lys Lys Glu Glu Leu
 690 695 700

Ala Arg Leu Arg Arg Glu Leu Val His Lys Ala Asn Pro Ile Arg Lys
 705 710 715 720

Tyr Gln Gly Leu Glu Ile Lys Ser Ser Asp Gln Pro Leu Thr Val Pro
 725 730 735

Val Ser Pro Lys Phe Ser Thr Arg Phe His Cys
 740 745

<210> 43
 <211> 2618
 <212> DNA
 <213> Homo sapiens

<400> 43
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 aaagcggagg aagctgggta ggccctgagg ggcctcggtta agccatcatg accaccggc 180
 aagccacgaa ggatccccctc ctccggggtg tatctcctac ccctagcaag attccggtac 240
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 Pge

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cagcaggccc caggccgaaa gccaggcacc aggcagagac atcacaaaga ttggtgggga	420
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cccagaggct acaggctctg atttcacctt caggaccttc ctttcaccct tccactcgcc	840
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aaccagggcc cctagagtcc tactgtagga ttgagcctga gataccggag tcctctcgcc	1980
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gccctgccgt acttcttcct tttagccctt atttattgtc ggtctgcca tgggactggg	2580
agccgcccac tttgtcctc aataaagttt ctaaagta	2618

<210> 44
 <211> 778
 <212> PRT
 <213> Homo sapiens

<400> 44

Met Thr Thr Arg Gln Ala Thr Lys Asp Pro Leu Leu Arg Gly Val Ser
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Pro Thr Pro Ser Lys Ile Pro Val Arg Ser Gln Lys Arg Thr Pro Phe
20 25 30

Pro Thr Val Thr Ser Cys Ala Val Asp Gln Glu Asn Gln Asp Pro Arg
35 40 45

Arg Trp Val Gln Lys Pro Pro Leu Asn Ile Gln Arg Pro Leu Val Asp
50 55 60

Ser Ala Gly Pro Arg Pro Lys Ala Arg His Gln Ala Glu Thr Ser Gln
65 70 75 80

Arg Leu Val Gly Ile Ser Gln Pro Arg Asn Pro Leu Glu Glu Leu Arg
85 90 95

Pro Ser Pro Arg Gly Gln Asn Val Gly Pro Gly Pro Pro Ala Gln Thr
100 105 110

Glu Ala Pro Gly Thr Ile Glu Phe Val Ala Asp Pro Ala Ala Leu Ala
115 120 125

Thr Ile Leu Ser Gly Glu Gly Val Lys Ser Cys His Leu Gly Arg Gln
130 135 140

Pro Ser Leu Ala Lys Arg Val Leu Val Arg Gly Ser Gln Gly Gly Thr
145 150 155 160

Thr Gln Arg Val Gln Gly Val Arg Ala Ser Ala Tyr Leu Ala Pro Arg
165 170 175

Thr Pro Thr His Arg Leu Asp Pro Ala Arg Ala Ser Cys Phe Ser Arg
180 185 190

Leu Glu Gly Pro Gly Pro Arg Gly Arg Thr Leu Cys Pro Gln Arg Leu
195 200 205

Gln Ala Leu Ile Ser Pro Ser Gly Pro Ser Phe His Pro Ser Thr Arg
Pge

210	215	220
Pro Ser Phe Gln Glu 225	Leu Arg Arg Glu Thr 230	Ala Gly Ser Ser Arg Thr 235 240
Ser Val Ser Gln Ala 245	Ser Gly Leu Leu Leu 250	Glu Thr Pro Val Gln Pro 255
Ala Phe Ser Leu Pro Lys Gly Glu 260	Arg Glu Val Val Thr 265 270	His Ser Asp
Glu Gly Gly Val Ala Ser Leu 275	Gly Leu Ala Gln Arg 280 285	Val Pro Leu Arg
Glu Asn Arg Glu Met Ser 290	His Thr Arg Asp Ser 295 300	His Asp Ser His Leu
Met Pro Ser Pro Ala Pro 305 310	Val Ala Gln Pro Leu 315	Pro Gly His Val Val 320
Pro Cys Pro Ser Pro 325	Phe Gly Arg Ala Gln 330	Arg Val Pro Ser Pro Gly 335
Pro Pro Thr Leu Thr Ser Tyr Ser 340	Val Leu Arg Arg Leu 345 350	Thr Val Gln
Pro Lys Thr Arg Phe Thr Pro 355 360	Met Pro Ser Thr Pro 365	Arg Val Gln Gln
Ala Gln Trp Leu Arg Gly 370 375	Val Ser Pro Gln Ser 380	Cys Ser Glu Asp Pro
Ala Leu Pro Trp Glu Gln Val 385 390	Ala Val Arg Leu Phe 395	Asp Gln Glu Ser 400
Cys Ile Arg Ser Leu Glu Gly Ser 405	Gly Lys Pro Pro Val Ala 410 415	Thr Pro
Ser Gly Pro His Ser Asn Arg Thr 420 425	Pro Ser Leu Gln Glu 430	Val Lys Ile
Gln Arg Ile Gly Ile Leu Gln 435 440	Gln Leu Leu Arg Gln 445	Glu Val Glu Gly
Leu Val Gly Gly Gln Cys Val 450 455	Pro Leu Asn Gly Gly 460	Ser Ser Leu Asp
Met Val Glu Leu Gln Pro 465 470	Leu Leu Thr Glu Ile 475	Ser Arg Thr Leu Asn 480
Ala Thr Glu His Asn Ser Gly Thr Ser 485 490	His Leu Pro Gly Leu 495	Leu Lys

His Ser Gly Leu Pro Lys Pro Cys Leu Pro Glu Glu Cys Gly Glu Pro
500 505 510

Gln Pro Cys Pro Pro Ala Glu Pro Gly Pro Pro Glu Ala Phe Cys Arg
515 520 525

Ser Glu Pro Glu Ile Pro Glu Pro Ser Leu Gln Glu Gln Leu Glu Val
530 535 540

Pro Glu Pro Tyr Pro Pro Ala Glu Pro Arg Pro Leu Glu Ser Cys Cys
545 550 555 560

Arg Ser Glu Pro Glu Ile Pro Glu Ser Ser Arg Gln Glu Gln Leu Glu
565 570 575

Val Pro Glu Pro Cys Pro Pro Ala Glu Pro Arg Pro Leu Glu Ser Tyr
580 585 590

Cys Arg Ile Glu Pro Glu Ile Pro Glu Ser Ser Arg Gln Glu Gln Leu
595 600 605

Glu Val Pro Glu Pro Cys Pro Pro Ala Glu Pro Gly Pro Leu Gln Pro
610 615 620

Ser Thr Gln Gly Gln Ser Gly Pro Pro Gly Pro Cys Pro Arg Val Glu
625 630 635 640

Leu Gly Ala Ser Glu Pro Cys Thr Leu Glu His Arg Ser Leu Glu Ser
645 650 655

Ser Leu Pro Pro Cys Cys Ser Gln Trp Ala Pro Ala Thr Thr Ser Leu
660 665 670

Ile Phe Ser Ser Gln His Pro Leu Cys Ala Ser Pro Pro Ile Cys Ser
675 680 685

Leu Gln Ser Leu Arg Pro Pro Ala Gly Gln Ala Gly Leu Ser Asn Leu
690 695 700

Ala Pro Arg Thr Leu Ala Leu Arg Glu Arg Leu Lys Ser Cys Leu Thr
705 710 715 720

Ala Ile His Cys Phe His Glu Ala Arg Leu Asp Asp Glu Cys Ala Phe
725 730 735

Tyr Thr Ser Arg Ala Pro Pro Ser Gly Pro Thr Arg Val Cys Thr Asn
740 745 750

Pro Val Ala Thr Leu Leu Glu Trp Gln Asp Ala Leu Cys Phe Ile Pro
755 760 765

Val Gly Ser Ala Ala Pro Gln Gly Ser Pro

<210> 45
 <211> 1771
 <212> DNA
 <213> Homo sapiens

<400> 45
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 cgccctagtg cgttacttac ctcgactctt agcttgctcg ggacggtaac cgggacccgg 180
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 aacacggcat ccagcccgat ggccagatgc caagtgacaa gaccattggg ggaggagatg 360
 actccttcaa caccttcttc agtgagacgg gcgctggcaa gcacgtgccc cgggctgtgt 420
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 aggccatcta tgacatctgt cgtagaaacc tcgatatcga gcgccaacc tacactaacc 900
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 attaacatca aaaaaaaaaa aaaaaaaaaa a 1771

<210> 46
 <211> 451
 <212> PRT
 <213> Homo sapiens

<400> 46

Met Arg Glu Cys Ile Ser Ile His Val Gly Gln Ala Gly Val Gln Ile
 1 5 10 15

Gly Asn Ala Cys Trp Glu Leu Tyr Cys Leu Glu His Gly Ile Gln Pro
 20 25 30

Asp Gly Gln Met Pro Ser Asp Lys Thr Ile Gly Gly Gly Asp Asp Ser
 35 40 45

Phe Asn Thr Phe Phe Ser Glu Thr Gly Ala Gly Lys His Val Pro Arg
 50 55 60

Ala Val Phe Val Asp Leu Glu Pro Thr Val Ile Asp Glu Val Arg Thr
 65 70 75 80

Gly Thr Tyr Arg Gln Leu Phe His Pro Glu Gln Leu Ile Thr Gly Lys
 85 90 95

Glu Asp Ala Ala Asn Asn Tyr Ala Arg Gly His Tyr Thr Ile Gly Lys
 100 105 110

Glu Ile Ile Asp Leu Val Leu Asp Arg Ile Arg Lys Leu Ala Asp Gln
 115 120 125

Cys Thr Gly Leu Gln Gly Phe Leu Val Phe His Ser Phe Gly Gly Gly
 130 135 140

Thr Gly Ser Gly Phe Thr Ser Leu Leu Met Glu Arg Leu Ser Val Asp
 145 150 155 160

Tyr Gly Lys Lys Ser Lys Leu Glu Phe Ser Ile Tyr Pro Ala Pro Gln
 165 170 175

Val Ser Thr Ala Val Val Glu Pro Tyr Asn Ser Ile Leu Thr Thr His
 180 185 190

Thr Thr Leu Glu His Ser Asp Cys Ala Phe Met Val Asp Asn Glu Ala
 195 200 205

Ile Tyr Asp Ile Cys Arg Arg Asn Leu Asp Ile Glu Arg Pro Thr Tyr
 210 215 220

Thr Asn Leu Asn Arg Leu Ile Ser Gln Ile Val Ser Ser Ile Thr Ala
 225 230 235 240

Ser Leu Arg Phe Asp Gly Ala Leu Asn Val Asp Leu Thr Glu Phe Gln
 245 250 255

Thr Asn Leu Val Pro Tyr Pro Arg Ile His Phe Pro Leu Ala Thr Tyr
260 265 270

Ala Pro Val Ile Ser Ala Glu Lys Ala Tyr His Glu Gln Leu Ser Val
275 280 285

Ala Glu Ile Thr Asn Ala Cys Phe Glu Pro Ala Asn Gln Met Val Lys
290 295 300

Cys Asp Pro Arg His Gly Lys Tyr Met Ala Cys Cys Leu Leu Tyr Arg
305 310 315 320

Gly Asp Val Val Pro Lys Asp Val Asn Ala Ala Ile Ala Thr Ile Lys
325 330 335

Thr Lys Arg Ser Ile Gln Phe Val Asp Trp Cys Pro Thr Gly Phe Lys
340 345 350

Val Gly Ile Asn Tyr Gln Pro Pro Thr Val Val Pro Gly Gly Asp Leu
355 360 365

Ala Lys Val Gln Arg Ala Val Cys Met Leu Ser Asn Thr Thr Ala Ile
370 375 380

Ala Glu Ala Trp Ala Arg Leu Asp His Lys Phe Asp Leu Met Tyr Ala
385 390 395 400

Lys Arg Ala Phe Val His Trp Tyr Val Gly Glu Gly Met Glu Glu Gly
405 410 415

Glu Phe Ser Glu Ala Arg Glu Asp Met Ala Ala Leu Glu Lys Asp Tyr
420 425 430

Glu Glu Val Gly Val Asp Ser Val Glu Gly Glu Gly Glu Glu Glu Gly
435 440 445

Glu Glu Tyr
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<210> 47
<211> 1490
<212> DNA
<213> Homo sapiens

<400> 47
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ccgccgcccg taaaggagct gagccgagcg ggggcgccgc ccgggggtccg gtgggcaaaa 180
ggtgagtgat gcggcctacc actcgccggg cctgccatgc cctaggcatt ggtaccaga 240
gcaaagattt ctaggaccac cccccgccgc cacctcctgg agcgggagat ctgcgggtgc 300
aggagaacac accaggagct cggggcctgg cattcccctg ggcattgggtg tcgagggcgg 360
Pge

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aagtggctct ccctgtatga tgtcaggacc attctgctct ccatccagag ccttctagga     1140
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gcttttaaga agtacctgca agaaacctac tcaaagcagg tcaccagcca ggagccctga     1260
cccaggctgc ccagcctgtc cttgtgtcgt ctttttaatt tttccttaga tggctctgtcc     1320
tttttgtgat ttctgtatag gactctttat cttgagctgt ggtatttttg ttttgttttt     1380
gtcttttaaa ttaagcctcg gttgagccct tgtatattaa ataaatgcat ttttgtcctt     1440
ttttagacaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa     1490

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<210> 48
<211> 140
<212> PRT
<213> Homo sapiens
<400> 48

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Met Thr Leu Met Met Ser Gly Asp Lys Gly Ile Ser Ala Phe Pro Glu
1           5           10          15

```

```

Ser Asp Asn Leu Phe Lys Trp Val Gly Thr Ile His Gly Ala Ala Gly
          20          25          30

```

```

Thr Val Tyr Glu Asp Leu Arg Tyr Lys Leu Ser Leu Glu Phe Pro Ser
          35          40          45

```

```

Gly Tyr Pro Tyr Asn Ala Pro Thr Val Lys Phe Leu Thr Pro Cys Tyr
          50          55          60

```

```

His Pro Asn Val Asp Thr Gln Gly Asn Ile Cys Leu Asp Ile Leu Lys
65          70          75          80

```

```

Glu Lys Trp Ser Ala Leu Tyr Asp Val Arg Thr Ile Leu Leu Ser Ile
          85          90          95

```


Gln Ser Leu Leu Gly Glu Pro Asn Ile Asp Ser Pro Leu Asn Thr His
100 105 110

Ala Ala Glu Leu Trp Lys Asn Pro Thr Ala Phe Lys Lys Tyr Leu Gln
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Glu Thr Tyr Ser Lys Gln Val Thr Ser Gln Glu Pro
130 135 140

<210> 49
<211> 2321
<212> DNA
<213> Homo sapiens

<400> 49
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acccgcccta cgggcacctc ccgcgctttt cttagcgccg cagacggtgg ccgagcgggg 120
gaccgggaag catggcccgg gggtcggcgg ttgcctgggc ggcgctcggg ccgttggtgt 180
ggggctgcgc gctggggctg cagggcggga tgctgtaccc ccaggagagc ccgtcgcggg 240
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tgccagttcc ctccagcttc aatgacatca gccaggactg gcgtctgcgg cattttgtcg 420
gctgggtgtg gtacgaacgg gaggtgatcc tgccggagcg atggaccag gacctgcga 480
caagagtggg gctgaggatt ggcagtgcgc attcctatgc catcgtgtgg gtgaatgggg 540
tcgacacgct agagcatgag gggggctacc tccccttcga ggccgacatc agcaacctgg 600
tccaggtggg gcccctgccc tcccggctcc gaatcactat cgccatcaac aacacactca 660
ccccaccac cctgccacca gggaccatcc aatacctgac tgacacctcc aagtatccca 720
agggttactt tgtccagaac acatattttg actttttcaa ctacgctgga ctgcagcggg 780
ctgtacttct gtacacgaca cccaccacct acatcgatga catcaccgtc accaccagcg 840
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agttggaagt gcgtcttttg gatgcagaaa acaaagtcgt ggcaaatggg actgggaccc 960
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tcttcaacaa cgtttctctg catcaccaca tgcaggtgat ggaagaagtg gtgcgtaggg 1440
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aatctgctgg ctactacttg aagatgggtg tgcctcacac caaatccttg gaccctccc 1560

ggctgtgac ctttgtgagc aactctaact atgcagcaga caaggggggct ccgtatgtgg 1620
 atgtgatctg tttgaacagc tactactctt ggtatcacga ctacggggcac ctggagttga 1680
 ttcagctgca gctggccacc cagtttgaga actgggtataa gaagtatcag aagcccatta 1740
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 tcactgaaga gtaccagaaa agtctgctag agcagtagca tctgggtctg gatcaaaaac 1860
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 caccgacgag agtgctgggg aataaaaagg ggtatcttcac tcggcagaga caaccaaaaa 1980
 gtgcagcgtt ccttttgca gagagatact ggaagattgc caatgaaacc aggtatcccc 2040
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<210> 50
 <211> 651
 <212> PRT
 <213> Homo sapiens

<400> 50

Met Ala Arg Gly Ser Ala Val Ala Trp Ala Ala Leu Gly Pro Leu Leu
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Trp Gly Cys Ala Leu Gly Leu Gln Gly Gly Met Leu Tyr Pro Gln Glu
 20 25 30

Ser Pro Ser Arg Glu Cys Lys Glu Leu Asp Gly Leu Trp Ser Phe Arg
 35 40 45

Ala Asp Phe Ser Asp Asn Arg Arg Arg Gly Phe Glu Glu Gln Trp Tyr
 50 55 60

Arg Arg Pro Leu Trp Glu Ser Gly Pro Thr Val Asp Met Pro Val Pro
 65 70 75 80

Ser Ser Phe Asn Asp Ile Ser Gln Asp Trp Arg Leu Arg His Phe Val
 85 90 95

Gly Trp Val Trp Tyr Glu Arg Glu Val Ile Leu Pro Glu Arg Trp Thr
 100 105 110

Gln Asp Leu Arg Thr Arg Val Val Leu Arg Ile Gly Ser Ala His Ser
 115 120 125

Tyr Ala Ile Val Trp Val Asn Gly Val Asp Thr Leu Glu His Glu Gly
 130 135 140

Gly Tyr Leu Pro Phe Glu Ala Asp Ile Ser Asn Leu Val Gln Val Gly
 145 150 155 160
 Pro Leu Pro Ser Arg Leu Arg Ile Thr Ile Ala Ile Asn Asn Thr Leu
 165 170 175
 Thr Pro Thr Thr Leu Pro Pro Gly Thr Ile Gln Tyr Leu Thr Asp Thr
 180 185 190
 Ser Lys Tyr Pro Lys Gly Tyr Phe Val Gln Asn Thr Tyr Phe Asp Phe
 195 200 205
 Phe Asn Tyr Ala Gly Leu Gln Arg Ser Val Leu Leu Tyr Thr Thr Pro
 210 215 220
 Thr Thr Tyr Ile Asp Asp Ile Thr Val Thr Thr Ser Val Glu Gln Asp
 225 230 235 240
 Ser Gly Leu Val Asn Tyr Gln Ile Ser Val Lys Gly Ser Asn Leu Phe
 245 250 255
 Lys Leu Glu Val Arg Leu Leu Asp Ala Glu Asn Lys Val Val Ala Asn
 260 265 270
 Gly Thr Gly Thr Gln Gly Gln Leu Lys Val Pro Gly Val Ser Leu Trp
 275 280 285
 Trp Pro Tyr Leu Met His Glu Arg Pro Ala Tyr Leu Tyr Ser Leu Glu
 290 295 300
 Val Gln Leu Thr Ala Gln Thr Ser Leu Gly Pro Val Ser Asp Phe Tyr
 305 310 315 320
 Thr Leu Pro Val Gly Ile Arg Thr Val Ala Val Thr Lys Ser Gln Phe
 325 330 335
 Leu Ile Asn Gly Lys Pro Phe Tyr Phe His Gly Val Asn Lys His Glu
 340 345 350
 Asp Ala Asp Ile Arg Gly Lys Gly Phe Asp Trp Pro Leu Leu Val Lys
 355 360 365
 Asp Phe Asn Leu Leu Arg Trp Leu Gly Ala Asn Ala Phe Arg Thr Ser
 370 375 380
 His Tyr Pro Tyr Ala Glu Glu Val Met Gln Met Cys Asp Arg Tyr Gly
 385 390 395 400
 Ile Val Val Ile Asp Glu Cys Pro Gly Val Gly Leu Ala Leu Pro Gln
 405 410 415
 Phe Phe Asn Asn Val Ser Leu His His His Met Gln Val Met Glu Glu
 Pge

420	425	430
Val Val Arg Arg Asp Lys Asn His Pro Ala Val Val Met Trp Ser Val		
435	440	445
Ala Asn Glu Pro Ala Ser His Leu Glu Ser Ala Gly Tyr Tyr Leu Lys		
450	455	460
Met Val Ile Ala His Thr Lys Ser Leu Asp Pro Ser Arg Pro Val Thr		
465	470	475
Phe Val Ser Asn Ser Asn Tyr Ala Ala Asp Lys Gly Ala Pro Tyr Val		
	485	490
Asp Val Ile Cys Leu Asn Ser Tyr Tyr Ser Trp Tyr His Asp Tyr Gly		
	500	505
His Leu Glu Leu Ile Gln Leu Gln Leu Ala Thr Gln Phe Glu Asn Trp		
	515	520
Tyr Lys Lys Tyr Gln Lys Pro Ile Ile Gln Ser Glu Tyr Gly Ala Glu		
	530	535
Thr Ile Ala Gly Phe His Gln Asp Pro Pro Leu Met Phe Thr Glu Glu		
	545	550
Tyr Gln Lys Ser Leu Leu Glu Gln Tyr His Leu Gly Leu Asp Gln Lys		
	565	570
Arg Arg Lys Tyr Val Val Gly Glu Leu Ile Trp Asn Phe Ala Asp Phe		
	580	585
Met Thr Glu Gln Ser Pro Thr Arg Val Leu Gly Asn Lys Lys Gly Ile		
	595	600
Phe Thr Arg Gln Arg Gln Pro Lys Ser Ala Ala Phe Leu Leu Arg Glu		
	610	615
Arg Tyr Trp Lys Ile Ala Asn Glu Thr Arg Tyr Pro His Ser Val Ala		
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Lys Ser Gln Cys Leu Glu Asn Ser Leu Phe Thr		
	645	650

<210> 51
 <211> 1921
 <212> DNA
 <213> Homo sapiens

<400> 51	
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ggcggggcgcc tgggcccgcg gctgtttaac ttcgcttccg ctggcccata gtgatctttg	120
cagtgaccca gcatcactgt ttcttggcgt gtgaagataa cccaaggaat tgaggaagtt	180
Pge	

gctgagaaga gtgtgctgga gatgctctag gaaaaaattg aatagtgaga cgagttccag	240
cgcaaggggtt tctgggtttgc caagaagaaa gtgaacatca tggatcagaa caacagcctg	300
ccaccttacg ctcagggtt ggcctcccct cagggtgcc tgaactcccg aatccctatc	360
tttagtccaa tgatgcctta tggcactgga ctgacccac agcctattca gaacaccaat	420
agtctgtcta ttttggaaga gcaacaaagg cagcagcagc aacaacaaca gcagcagcag	480
cagcagcagc agcaacagca acagcagcag cagcagcagc agcagcagca gcagcagcag	540
cagcagcagc agcagcagca acaggcagt gcagctgcag ccgttcagca gtcaacgtcc	600
cagcaggcaa cacagggaac ctcaggccag gcaccacagc tcttcactc acagactctc	660
acaactgcac ccttgccggg caccactcca ctgtatccct ccccatgac tcccatgacc	720
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cgaaccacgg cactgatttt cagttctggg aaaatggtgt gcacaggagc caagagtga	960
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tataactcct aggggttatt tctgtgccag acacattcca cctctccagt attgcaggac	1800
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a	1921

<210> 52
 <211> 339
 <212> PRT
 <213> Homo sapiens

<400> 52

Met Asp Gln Asn Asn Ser Leu Pro Pro Tyr Ala Gln Gly Leu Ala Ser
Pge

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Pro Gln Gly	Ala 20	Met Thr Pro Gly	Ile 25
Pro Tyr Gly	Thr Gly Leu Thr	Pro Gln Pro Ile	Gln 45
Leu Ser Ile	Leu Glu Glu	Gln Gln Arg Gln	Gln 60
Gln Gln Gln	Gln Gln Gln	Gln Gln Gln	Gln 80
Gln Gln Gln	Gln Gln Gln	Gln Gln Gln	Gln 95
Val Ala Ala	Ala Ala Val	Gln Gln Ser Thr	Ser Gln Gln
Gly Thr Ser	Gly Gln Ala	Pro Gln Leu Phe	His Ser Gln
Thr Ala Pro	Leu Pro Gly	Thr Thr Pro	Leu Tyr Pro
Pro Met Thr	Pro Ile Thr	Pro Ala Thr	Pro Ala Ser
Ile Val Pro	Gln Leu Gln	Asn Ile Val Ser	Thr Val Asn
Lys Leu Asp	Leu Lys Thr	Ile Ala Leu	Arg Ala Arg
Asn Pro Lys	Arg Phe Ala	Ala Val Ile	Met Arg Ile
Thr Thr Ala	Leu Ile Phe	Ser Ser Gly	Lys Met Val
Lys Ser Glu	Glu Gln Ser	Arg Leu Ala	Ala Arg Lys
Val Gln Lys	Leu Gly Phe	Pro Ala Lys	Phe Leu Asp
Asn Met Val	Gly Ser Cys	Asp Val Lys	Phe Pro Ile
Leu Val Leu	Thr His Gln	Gln Phe Ser	Ser Tyr Glu

Pro Gly Leu Ile Tyr Arg Met Ile Lys Pro Arg Ile Val Leu Leu Ile
 290 295 300

Phe Val Ser Gly Lys Val Val Leu Thr Gly Ala Lys Val Arg Ala Glu
 305 310 315 320

Ile Tyr Glu Ala Phe Glu Asn Ile Tyr Pro Ile Leu Lys Gly Phe Arg
 325 330 335

Lys Thr Thr

<210> 53
 <211> 1229
 <212> DNA
 <213> Homo sapiens

<400> 53
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 tcgtggaagt gacatcgtct ttaaaccctg cgtggcaatc cctgacgcac cgccgtgatg 180
 cccaggggaag acagggcgac ctggaagtcc aactacttcc ttaagatcat ccaactattg 240
 gatgattatc cgaaatgttt cattgtggga gcagacaatg tgggctcaa gcagatgcag 300
 cagatccgca tgtcccttcg cggaaggct gtggtgctga tgggcaagaa caccatgatg 360
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 aagtaaaaaa aaaaaaaaaa aaaaaaaaaa 1229

<210> 54
 <211> 317
 <212> PRT
 <213> Homo sapiens

<400> 54

Met Pro Arg Glu Asp Arg Ala Thr Trp Lys Ser Asn Tyr Phe Leu Lys
1 5 10 15

Ile Ile Gln Leu Leu Asp Asp Tyr Pro Lys Cys Phe Ile Val Gly Ala
20 25 30

Asp Asn Val Gly Ser Lys Gln Met Gln Gln Ile Arg Met Ser Leu Arg
35 40 45

Gly Lys Ala Val Val Leu Met Gly Lys Asn Thr Met Met Arg Lys Ala
50 55 60

Ile Arg Gly His Leu Glu Asn Asn Pro Ala Leu Glu Lys Leu Leu Pro
65 70 75 80

His Ile Arg Gly Asn Val Gly Phe Val Phe Thr Lys Glu Asp Leu Thr
85 90 95

Glu Ile Arg Asp Met Leu Leu Ala Asn Lys Val Pro Ala Ala Ala Arg
100 105 110

Ala Gly Ala Ile Ala Pro Cys Glu Val Thr Val Pro Ala Gln Asn Thr
115 120 125

Gly Leu Gly Pro Glu Lys Thr Ser Phe Phe Gln Ala Leu Gly Ile Thr
130 135 140

Thr Lys Ile Ser Arg Gly Thr Ile Glu Ile Leu Ser Asp Val Gln Leu
145 150 155 160

Ile Lys Thr Gly Asp Lys Val Gly Ala Ser Glu Ala Thr Leu Leu Asn
165 170 175

Met Leu Asn Ile Ser Pro Phe Ser Phe Gly Leu Val Ile Gln Gln Val
180 185 190

Phe Asp Asn Gly Ser Ile Tyr Asn Pro Glu Val Leu Asp Ile Thr Glu
195 200 205

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

Val Cys Leu Gln Ile Gly Tyr Pro Thr Val Ala Ser Val Pro His Ser
225 230 235 240

Ile Ile Asn Gly Tyr Lys Arg Val Leu Ala Leu Ser Val Glu Thr Asp
245 250 255

Tyr Thr Phe Pro Leu Ala Glu Lys Val Lys Ala Phe Leu Ala Asp Pro
260 265 270

Ser Ala Phe Val Ala Ala Ala Pro Val Ala Ala Ala Thr Thr Ala Ala
 275 280 285

Pro Ala Ala Ala Ala Ala Pro Ala Lys Val Glu Ala Lys Glu Glu Ser
 290 295 300

Glu Glu Ser Asp Glu Asp Met Gly Phe Gly Leu Phe Asp
 305 310 315

<210> 55
 <211> 20
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Primer BIRC5

<400> 55
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<210> 56
 <211> 20
 <212> DNA
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