

# XpressWay® Profile Report

Prepared for: Asterand

Date issued: 13/03/2009

**GPR22** G protein-coupled receptor (GPR22)

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Enzyme ID:

Protein Accession no: Q99680

Nucleotide Accession no: U66581

Forward primer: AGGCTTGTGTATCTTTTGCAAGTG

Reverse primer: TGCAGGTTTTACAGAGATGTCATATCT

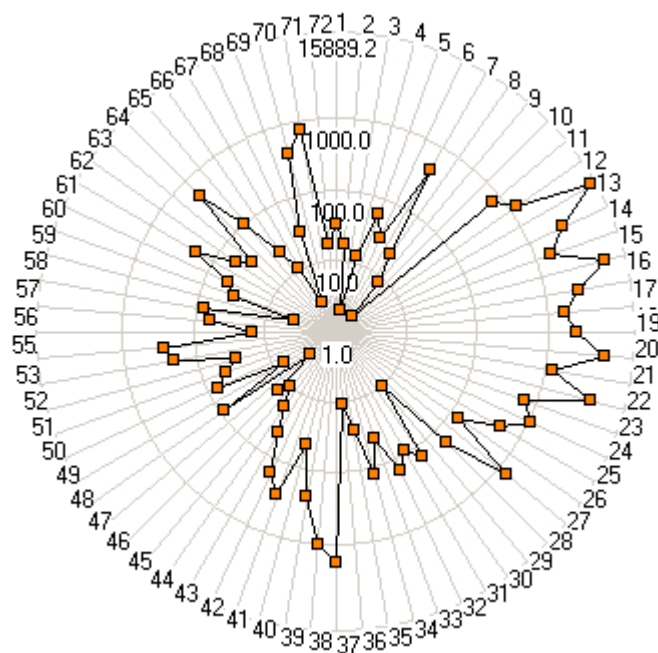
Probe: AACAGCAATCAACGTTTTTGCTATCACTTTGGA

SwissProt Name: GPRM

SwissProt Description: PROBABLE G PROTEIN-COUPLED RECEPTOR GPR22.

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Mean Expression: \* For tissue order see Tissue Report.



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## Tissue Report

No.	Human Tissue
1	adipose:mesenteric-ileum
2	adrenal-gland
3	bladder
4	bladder:trigone
5	blood-vessel:cerebral:middle-cerebral-artery
6	blood-vessel:choroid-plexus
7	blood-vessel:coronary:artery
8	blood-vessel:mesenteric(colon)
9	blood-vessel:pulmonary
10	blood-vessel:renal
11	brain:amygdala
12	brain:caudate
13	brain:cerebellum
14	brain:cortex:cingulate-anterior
15	brain:cortex:cingulate-posterior
16	brain:cortex:frontal-lateral
17	brain:cortex:frontal-medial
18	brain:cortex:occipital
19	brain:cortex:parietal
20	brain:cortex:temporal
21	brain:dorsal-raphé-nucleus
22	brain:hippocampus
23	brain:hypothalamus:anterior
24	brain:hypothalamus:posterior
25	brain:locus-coeruleus
26	brain:medulla-oblongata
27	brain:nucleus-accumbens
28	brain:substantia-nigra

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No.	Human Tissue
29	breast
30	caecum
31	cell:blood-mononuclear
32	colon
33	DRG
34	duodenum
35	fallopian-tube
36	gallbladder
37	heart:left-atria
38	heart:left-ventricle
39	ileum
40	jejunum
41	kidney:cortex
42	kidney:medulla
43	kidney:pelvis
44	liver:parenchyma
45	lung:bronchus:primary
46	lung:bronchus:tertiary
47	lung:parenchyma
48	lymph-gland:tonsil
49	muscle:skeletal
50	oesophagus
51	ovary
52	pancreas
53	pineal-gland
54	pituitary-gland
55	placenta
56	prostate
57	rectum
58	skin:foreskin

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No.	Human Tissue
59	spinal-cord
60	spleen:parenchyma
61	stomach:antrum
62	stomach:body
63	stomach:fundus
64	stomach:pyloric-canal
65	testis
66	thyroid-gland
67	trachea
68	umbilical-cord
69	ureter
70	uterus:cervix
71	uterus:myometrium
72	vas-deferens

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## Expression Data:

Human Tissue	Donor ID	TCt	CCt	TCn	CCn
adipose:mesenteric-ileum	30	33.54	21.20	60	155239
adipose:mesenteric-ileum	38	34.19	21.02	40	174054
adipose:mesenteric-ileum	470	35.80	21.78	14	107377
adrenal-gland	1175	34.84	19.90	26	354666
adrenal-gland	1032	36.18	19.80	11	377939
bladder	44	36.13	22.23	11	80669
bladder	651	40.00	25.10	0	13018
bladder	688	40.00	25.36	0	11035
bladder:trigone	1684	34.11	20.42	42	254854
bladder:trigone	1309	37.18	20.83	6	196393
bladder:trigone	1315	36.51	22.32	9	76184
blood-vessel:cerebral:middle-cerebral-artery	2323	36.05	21.11	12	164377
blood-vessel:cerebral:middle-cerebral-artery	3253	29.84	21.65	640	116626
blood-vessel:cerebral:middle-cerebral-artery	2047	35.12	20.55	22	234644
blood-vessel:choroid-plexus	1280	32.63	20.20	108	293100
blood-vessel:choroid-plexus	1284	35.29	21.12	20	163336
blood-vessel:choroid-plexus	196	36.35	21.57	10	122709
blood-vessel:coronary:artery	2110	33.78	24.02	52	25860
blood-vessel:coronary:artery	1301	31.50	22.29	222	77650
blood-vessel:coronary:artery	1300	26.29	19.45	6110	472092
blood-vessel:mesenteric(colon)	2026	36.02	22.72	12	59082
blood-vessel:mesenteric(colon)	25	34.16	19.86	41	363798
blood-vessel:mesenteric(colon)	688	35.15	22.75	21	57966
blood-vessel:pulmonary	2050	36.33	23.33	10	40095
blood-vessel:pulmonary	22	37.57	21.58	4	121931
blood-vessel:pulmonary vein	25	36.40	20.57	9	231681
blood-vessel:renal	24	38.51	23.94	2	27209
blood-vessel:renal	2459	38.03	21.90	3	99492
blood-vessel:renal	1310	39.31	22.53	1	66665
brain:amygdala	117	27.20	20.07	3427	318345
brain:amygdala	155	27.68	20.08	2525	316328

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brain:amygdala	174	34.28	23.26	38	41919
brain:caudate	161	28.44	19.84	1558	368452
brain:caudate	118	30.35	20.74	462	207954
brain:caudate	1650	27.87	20.31	2238	273309
brain:cerebellum	172	25.78	19.56	8449	440215
brain:cerebellum	152	24.16	19.04	23659	612622
brain:cerebellum	120	25.28	19.88	11610	359203
brain:cortex:cingulate-anterior	1716	28.58	19.64	1425	418392
brain:cortex:cingulate-anterior	1645	26.50	19.15	5347	571256
brain:cortex:cingulate-anterior	1273	27.01	19.88	3866	359203
brain:cortex:cingulate-posterior	1643	27.12	19.06	3605	604884
brain:cortex:cingulate-posterior	1276	28.75	21.01	1279	175163
brain:cortex:cingulate-posterior	1274	29.36	20.35	868	266449
brain:cortex:frontal-lateral	1276	24.47	18.19	19428	1051489
brain:cortex:frontal-lateral	1642	25.26	18.98	11759	636434
brain:cortex:frontal-lateral	1275	28.18	19.78	1838	382773
brain:cortex:frontal-medial	1273	27.95	19.97	2127	339234
brain:cortex:frontal-medial	1268	26.03	19.09	7208	593461
brain:cortex:frontal-medial	107	28.66	20.26	1354	282133
brain:cortex:occipital	120	26.92	20.60	4094	227305
brain:cortex:occipital	1267	30.98	21.63	310	118117
brain:cortex:occipital	1268	27.32	20.27	3175	280346
brain:cortex:parietal	1650	26.03	19.42	7208	481179
brain:cortex:parietal	1050	26.30	19.31	6071	516022
brain:cortex:parietal	1268	31.22	21.82	266	104682
brain:cortex:temporal	1650	26.21	19.80	6429	377939
brain:cortex:temporal	1268	25.72	19.66	8778	413108
brain:cortex:temporal	1042	27.02	20.31	3842	273309
brain:dorsal-raphé-nucleus	1642	28.98	19.37	1105	496716
brain:dorsal-raphé-nucleus	1641	29.17	19.02	979	620459
brain:dorsal-raphé-nucleus	2004	28.56	19.38	1443	493569
brain:hippocampus	111	28.56	19.73	1443	395132
brain:hippocampus	151	26.33	19.37	5957	496716

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brain:hippocampus	110	25.21	19.46	12139	469101
brain:hypothalamus:anterior	1276	28.11	20.26	1921	282133
brain:hypothalamus:anterior	1277	29.82	20.80	648	200174
brain:hypothalamus:anterior	1274	31.55	22.66	215	61379
brain:hypothalamus:posterior	3016	30.69	22.21	372	81701
brain:hypothalamus:posterior	3014	28.30	19.81	1703	375544
brain:hypothalamus:posterior	2416	28.47	21.31	1528	144757
brain:locus-coeruleus	1645	31.45	20.17	230	298742
brain:locus-coeruleus	1643	28.16	19.18	1861	560468
brain:locus-coeruleus	2184	31.63	21.03	205	172951
brain:medulla-oblongata	117	33.62	21.28	57	147543
brain:medulla-oblongata	108	30.73	20.56	363	233158
brain:medulla-oblongata	174	32.91	20.38	90	261416
brain:nucleus-accumbens	449	29.08	20.93	1037	184300
brain:nucleus-accumbens	2005	27.87	20.24	2238	285743
brain:nucleus-accumbens	1274	29.32	22.05	890	90446
brain:substantia-nigra	172	31.09	20.56	289	233158
brain:substantia-nigra	1269	31.36	20.90	243	187847
brain:substantia-nigra	1267	33.80	22.39	51	72869
breast	1171	37.34	22.85	5	54397
breast	1156	34.13	23.34	41	39841
breast	1679	37.74	24.86	4	15163
caecum	34	31.95	18.51	167	857986
caecum	25	33.51	20.12	62	308387
caecum	1226	31.52	19.11	220	585965
cell:blood-mononuclear	2486	31.60	20.11	209	310354
cell:blood-mononuclear	2275	33.18	19.29	76	522623
cell:blood-mononuclear	2054	34.41	20.36	35	264760
colon	15	31.11	20.93	285	184300
colon	9	32.36	19.53	129	448689
colon	25	33.21	20.59	75	228755
DRG	1030	32.19	21.50	143	128291
DRG	3323	34.11	21.82	42	104682

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Human Tissue	Donor ID	TCt	CCt	TCn	CCn
DRG	1977	36.38	22.77	10	57234
duodenum	45	31.34	21.43	246	134127
duodenum	26	33.01	20.13	85	306434
duodenum	16	33.33	23.09	69	46701
fallopian-tube	1213	34.53	19.65	32	415742
fallopian-tube	2215	34.82	20.98	27	178535
fallopian-tube	1995	35.51	20.02	17	328623
gallbladder	20	33.89	20.65	48	220196
gallbladder	674	35.07	20.50	23	242221
gallbladder	42	40.00	23.14	0	45241
heart:left-atria	1818	25.17	19.63	12451	421060
heart:left-atria	1032	32.96	22.15	88	84876
heart:left-atria	1820	26.83	20.08	4335	316328
heart:left-ventricle	31	28.18	19.38	1838	493569
heart:left-ventricle	1032	34.59	22.39	31	72869
heart:left-ventricle	1452	25.01	18.74	13784	741305
ileum	14	30.44	19.11	437	585965
ileum	4	32.25	19.97	138	339234
ileum	1	31.87	20.38	176	261416
jejunum	9	34.79	21.92	27	98236
jejunum	1	34.34	19.15	36	571256
jejunum	4	33.28	19.67	71	410491
kidney:cortex	6	31.32	18.02	249	1171460
kidney:cortex	1174	31.12	18.28	283	993033
kidney:medulla	6	30.37	19.42	457	481179
kidney:medulla	1305	36.03	20.68	12	216037
kidney:medulla	24	30.03	20.40	567	258115
kidney:pelvis	41	34.01	22.04	45	91022
kidney:pelvis	1319	33.98	21.68	46	114423
kidney:pelvis	2459	34.59	21.30	31	145680
liver:parenchyma	1991	35.44	22.58	18	64580
liver:parenchyma	7	35.57	18.82	16	704556
liver:parenchyma	1251	35.30	21.40	19	136709

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Human Tissue	Donor ID	TCt	CCt	TCn	CCn
lung:bronchus:primary	22	35.90	21.12	13	163336
lung:bronchus:primary	36	37.18	20.97	6	179673
lung:bronchus:primary	32	36.01	22.20	12	82221
lung:bronchus:tertiary	25	35.50	21.64	17	117369
lung:bronchus:tertiary	14	35.76	20.23	14	287564
lung:bronchus:tertiary	22	36.32	20.15	10	302563
lung:parenchyma	13	38.09	23.81	3	29553
lung:parenchyma	9	37.59	23.17	4	44386
lung:parenchyma	12	38.72	23.01	2	49137
lymph-gland:tonsil	292	32.94	18.07	89	1134819
lymph-gland:tonsil	2111	33.88	19.00	49	628396
lymph-gland:tonsil	944	32.37	18.54	128	841782
muscle:skeletal	2110	36.24	18.15	10	1078563
muscle:skeletal	856	34.47	18.45	33	891335
muscle:skeletal	1032	40.00	18.80	0	713569
oesophagus	5	32.50	19.75	118	390142
oesophagus	35	32.71	19.40	103	487335
oesophagus	48	34.88	20.64	26	221600
ovary	1696	31.65	20.32	202	271577
ovary	2220	36.70	22.87	8	53710
ovary	575	33.70	21.62	55	118870
pancreas	14	35.21	23.65	21	32716
pancreas	25	35.54	23.48	17	36449
pancreas	12	33.60	21.89	58	100127
pineal-gland	1719	31.74	20.20	191	293100
pineal-gland	1718	31.56	19.34	214	506277
pineal-gland	1047	31.54	20.63	217	223012
pituitary-gland	2246	30.57	20.92	402	185475
pituitary-gland	1983	31.24	20.52	262	239161
pituitary-gland	1269	31.94	20.03	168	326541
placenta	299	35.05	22.98	23	50083
placenta	346	35.02	22.03	23	91603
placenta	301	37.23	22.64	5	62164

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Human Tissue	Donor ID	TCt	CCt	TCn	CCn
prostate	1154	34.52	20.69	32	214668
prostate	1317	33.83	21.55	50	124278
prostate	688	32.46	20.94	121	183132
rectum	1684	33.17	21.35	77	141123
rectum	38	33.51	19.98	62	337085
rectum	1187	32.98	19.68	87	407890
skin:foreskin	559	37.74	22.14	4	85417
skin:foreskin	287	36.02	19.96	12	341397
skin:foreskin	648	39.31	22.29	1	77650
spinal-cord	1032	33.07	20.04	82	324473
spinal-cord	2005	33.41	21.33	66	142928
spinal-cord	193	37.11	21.66	6	115887
spleen:parenchyma	1175	31.88	20.83	175	196393
spleen:parenchyma	1032	35.90	22.99	13	49766
spleen:parenchyma	30	34.03	20.76	44	205328
stomach:antrum	26	28.62	22.37	1389	73801
stomach:antrum	880	36.06	23.69	12	31895
stomach:antrum	14	30.74	21.93	361	97613
stomach:body	14	33.04	23.21	83	43272
stomach:body	26	32.25	21.83	138	104019
stomach:body	16	35.96	22.56	13	65406
stomach:fundus	1293	33.48	23.08	63	46999
stomach:fundus	45	33.92	21.41	47	135843
stomach:fundus	34	35.99	21.86	12	102054
stomach:pyloric-canal	45	28.22	22.38	1792	73333
stomach:pyloric-canal	1293	31.80	22.60	184	63764
stomach:pyloric-canal	46	30.65	21.89	382	100127
testis	813	33.89	21.49	48	129109
testis	1155	31.35	20.44	245	251636
testis	1077	33.17	21.68	77	114423
thyroid-gland	660	33.97	21.20	46	155239
thyroid-gland	832	33.82	20.63	51	223012
thyroid-gland	1032	37.25	22.02	5	92187

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trachea	1312	34.04	20.58	44	230213
trachea	1293	37.65	21.72	4	111551
trachea	35	37.01	21.43	6	134127
umbilical-cord	951	37.52	22.78	4	56872
umbilical-cord	391	40.00	23.16	0	44669
umbilical-cord	236	36.59	21.96	8	95770
ureter	1319	33.36	23.33	68	40095
ureter	1306	36.10	24.39	11	20441
ureter	1315	34.30	24.16	37	23659
uterus:cervix	947	32.68	21.58	105	121931
uterus:cervix	824	28.02	21.67	2035	115152
uterus:cervix	739	31.27	21.27	257	148484
uterus:myometrium	572	32.32	20.52	132	239161
uterus:myometrium	3289	27.85	20.61	2267	225865
uterus:myometrium	1088	28.63	19.42	1381	481179
vas-deferens	65	35.84	22.26	14	79145
vas-deferens	1317	35.38	22.07	18	89303
vas-deferens	1992	35.51	22.08	17	88737

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adipose:mesenteric-ileum	34.51	21.33	33	142626
adrenal-gland	35.51	19.85	17	366119
bladder	38.71	24.23	2	22630
bladder:trigone	35.93	21.19	13	156229
blood-vessel:cerebral	33.67	21.10	56	165076
blood-vessel:choroid-plexus	34.76	20.96	28	180437
blood-vessel:coronary:artery	30.52	21.92	415	98236
blood-vessel:mesenteric(colon)	35.11	21.78	22	107605
blood-vessel:pulmonary	36.77	21.83	8	104240
blood-vessel:renal	38.62	22.79	2	56512
brain:amygdala	29.72	21.14	691	161615
brain:caudate	28.89	20.30	1173	275635
brain:cerebellum	25.07	19.49	13241	459269
brain:cortex:cingulate-anterior	27.36	19.56	3089	441150
brain:cortex:cingulate-posterior	28.41	20.14	1588	304493
brain:cortex:frontal-lateral	25.97	18.98	7489	635088
brain:cortex:frontal-medial	27.55	19.77	2749	384399
brain:cortex:occipital	28.41	20.83	1592	195978
brain:cortex:parietal	27.85	20.18	2267	296222
brain:cortex:temporal	26.32	19.92	6008	349446
brain:dorsal-raphé-nucleus	28.90	19.26	1161	533814
brain:hippocampus	26.70	19.52	4709	451551
brain:hypothalamus:anterior	29.83	21.24	646	151343
brain:hypothalamus:posterior	29.15	21.11	990	164378
brain:locus-coeruleus	30.41	20.13	445	307084
brain:medulla-oblongata	32.42	20.74	124	207955
brain:nucleus-accumbens	28.76	21.07	1274	168254
brain:substantia-nigra	32.08	21.28	154	147232
breast	36.40	23.68	10	32031
caecum	32.33	19.25	132	537217
cell:blood-mononuclear	33.06	19.92	83	350187

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Human Tissue	Mean TCt	Mean CCt	Mean TCn	Mean CCn
colon	32.23	20.35	140	266449
DRG	34.23	22.03	39	91603
duodenum	32.56	21.55	114	124279
fallopian-tube	34.95	20.22	25	290012
gallbladder	36.32	21.43	10	134128
heart:left-atria	28.32	20.62	1682	224435
heart:left-ventricle	29.26	20.17	925	298743
ileum	31.52	19.82	220	373166
jejunum	34.14	20.25	42	284535
kidney:cortex	31.22	18.15	266	1078562
kidney:medulla	32.14	20.17	148	299376
kidney:pelvis	34.19	21.67	40	114909
liver:parenchyma	35.44	20.93	18	183910
lung:bronchus:primary	36.36	21.43	10	134128
lung:bronchus:tertiary	35.86	20.67	14	216955
lung:parenchyma	38.13	23.33	3	40095
lymph-gland:tonsil	33.06	18.54	83	843568
muscle:skeletal	36.90	18.47	7	881945
oesophagus	33.36	19.93	68	347969
ovary	34.02	21.60	45	120137
pancreas	34.78	23.01	28	49242
pineal-gland	31.61	20.06	207	321054
pituitary-gland	31.25	20.49	261	243765
placenta	35.77	22.55	15	65824
prostate	33.60	21.06	59	169685
rectum	33.22	20.34	75	268716
skin:foreskin	37.69	21.46	4	131316
spinal-cord	34.53	21.01	32	175164
spleen:parenchyma	33.94	21.53	47	126135
stomach:antrum	31.81	22.66	183	61249
stomach:body	33.75	22.53	53	66525
stomach:fundus	34.46	22.12	34	86694
stomach:pyloric-canal	30.22	22.29	502	77651

# XpressWay® Profile Report

Prepared for: Asterand

Date issued: 13/03/2009

## GPR22

G protein-coupled receptor (GPR22)

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Human Tissue	Mean TCt	Mean CCt	Mean TCn	Mean CCn
testis	32.80	21.20	97	154911
thyroid-gland	35.01	21.28	24	147231
trachea	36.23	21.24	11	151022
umbilical-cord	38.04	22.63	3	62428
ureter	34.59	23.96	31	26866
uterus:cervix	30.66	21.51	381	127749
uterus:myometrium	29.60	20.18	746	296221
vas-deferens	35.58	22.14	17	85599

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**GPR22** G protein-coupled receptor (GPR22)

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## Donor Information:

Donor ID	Age	Sex	Diagnosis
1	33	male	Intracranial haemorrhage(CoD)
4	42	female	Brain stem haemorrhage(COD); Hypertension
5	19	male	Head injury(COD); Intracranial haemorrhage(COD); Substance abuse
6	24	male	Head injury(COD); Intracranial haemorrhage(COD); Substance abuse
7	51	male	Head injury(COD); Cardiomyopathy; Cytomegalovirus carrier
9	29	male	Hypoglycaemia(COD); Cerebral oedema(COD); Cerebral infarction(COD); Pneumonia; Diabetes mellitus
12	48	male	Subarachnoid haemorrhage(COD); Pneumonia; Lower respiratory tract infection
13	45	female	Intracranial haemorrhage(COD)
14	39	female	Subarachnoid haemorrhage(COD); Toxoplasmosis
15	29	male	Skull fracture(COD); Asthma
16	30	male	Subarachnoid haemorrhage(CoD)
20	43	male	Subarachnoid haemorrhage(COD); Ischaemic heart disease
22	35	male	Head injury(COD); Cytomegalovirus carrier
24	51	male	Myocardial infarction(COD); Cytomegalovirus carrier
25	37	female	Road traffic accident(COD); Head injury(COD)
26	17	male	Meningococcal meningitis(COD)
30	54	male	Subarachnoid haemorrhage(COD); Bronchitis, chronic; Peptic ulceration
31	61	male	Intracranial haemorrhage(COD); Atrial fibrillation; Diabetes mellitus
32	34	male	Intracranial haemorrhage(COD)
34	40	female	Asthma(COD); Cardiac arrest(COD); Hypoxic brain damage(COD)
35	47	female	Road traffic accident(COD)
36	43	female	Cerebral colloid cyst(CoD); Bronchitis, chronic; Chronic Obstructive Pulmonary Disease
38	31	male	Subarachnoid haemorrhage(COD); Pneumonia

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**GPR22** G protein-coupled receptor (GPR22)

Donor ID	Age	Sex	Diagnosis
41	52	male	Myocardial infarction(COD)
42	53	female	Intracranial haemorrhage(CoD); Bronchitis, chronic
44	38	female	Substance overdose(COD); Cerebral oedema(COD); Epilepsy; Hypoglycaemia
45	37	female	Substance overdose(COD); Pulmonary emphysema; Cytomegalovirus carrier
46	46	male	Intracranial haemorrhage(CoD); Chronic Obstructive Pulmonary Disease; Obesity, BMI not specified
48	20	male	Head injury(COD)
65		male	No significant history
107	75	male	Respiratory insufficiency(COD); Pulmonary emphysema; Atrial fibrillation
108	76	male	Heart failure(COD); Respiratory insufficiency(COD); Bronchial carcinoma; Epilepsy; Scalenus anticus syndrome
110	78	male	Pulmonary emphysema(COD); Myocardial infarction; Amoebiasis; Malaria
111	73	female	Heart failure(COD); Myocardial infarction; Non insulin dependent diabetes mellitus
117	75	male	Carcinomatosis(COD); Bladder carcinoma; Transitional cell carcinoma
118	58	female	Heart failure(COD); Ischaemic heart disease; Bronchial asthma
120	88	male	Heart failure(COD); Hypertensive heart disease; Benign prostatic hyperplasia; Pancreatic carcinoma
151	88	female	Cachexia(COD); Alzheimer's disease; Hypertension; Diabetes mellitus
152	92	female	Dehydration(COD); Cachexia(COD); Alzheimer's disease
155	87	female	Gastrointestinal haemorrhage(COD); Cachexia(COD); Non-Hodgkin's lymphoma; Alzheimer's disease
161	93	male	Respiratory insufficiency(COD); Heart failure; Atrial fibrillation; Pulmonary emphysema; Cardiomegaly; Hyperkeratotic tumour; Benign prostatic hyperplasia; Non-demented control
172	88	female	Cachexia(COD); Dehydration(COD); Hippocampal sclerosis; Pulmonary emphysema; Supraventricular tachycardia;

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Donor ID	Age	Sex	Diagnosis
			Hypercholesterolaemia; Depression, chronic; Irritable bowel syndrome
174	86	female	Cachexia(COD); Heart failure; Alzheimer's disease; Non insulin dependent diabetes mellitus; Deep vein thrombosis
193	82	female	Multiple sclerosis(COD); Osteomyelitis
196	75	female	Pneumonia(COD); Chronic Obstructive Pulmonary Disease(COD); Heart failure; Myocardial infarction; Hypertension; Demential syndrome; Psoriasis; Osteoporosis; Alzheimer's disease; Depression; Deep vein thrombosis; Cataract
236	27	female	No significant history
287	22	male	Phimosis
292	7	female	Tonsillitis
299	31	female	No significant history
301	31	female	No significant history
346	23	female	No significant history
391	37	female	No significant history
449	87	male	Alzheimer's disease
470		ns	Carcinomatosis
559	6	male	Phimosis
572	40	female	No history supplied
575	48	female	No history supplied
648	17	male	Dysuria
651	58	male	Rectal carcinoma; Adenocarcinoma; Modified Duke's stage C; Neutropenia; Hypertension; Grade 3
660	58	female	Multinodular colloid goitre, non-toxic; Non insulin dependent diabetes mellitus; Nickel allergy; Bell's palsy
674	64	male	Cholecystitis; Jaundice; Empyema; Hypertension; Incisional hernia; Varicose veins
688	54	male	Coronary atherosclerosis(CoD); Ischaemic heart disease(CoD); Helicobacter pylori infection
739	44	female	Menorrhagia; Leiomyoma
813	68	male	Testicular carcinoma
824	57	female	Pelvic mass

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**GPR22** G protein-coupled receptor (GPR22)

Donor ID	Age	Sex	Diagnosis
832	20	male	Multinodular colloid goitre, non-toxic; Lymphocytic thyroiditis
856	74	male	Non insulin dependent diabetes mellitus; Peripheral vascular disease
880	71	male	Gastric carcinoma; Poorly differentiated; Myocardial infarction; Angina; Asthma; Gastric ulcer
944	17	female	Tonsillitis
947		female	Adenomyosis
951	31	female	No significant history
1030	91	female	Cerebrovascular disease(COD)
1032	84	female	Intestinal infarction(COD); Intestinal haemorrhage(COD); Atherosclerosis of mesenteric artery
1042	101	female	No significant history
1047	40	male	Heart failure(COD); Cognitively normal
1050	78	female	Heart failure(COD); Cognitively normal
1077	46	male	Seminoma, classic
1088	44	female	Cervical intraepithelial neoplasia, III
1154	76	male	Benign prostatic hyperplasia
1155	86	male	Prostatic carcinoma
1156	62	female	Invasive ductal breast carcinoma; Grade 3
1171	65	female	Intraductal breast carcinoma; Oestrogen receptor positive
1174	71	female	Renal carcinoma; Hypertension; Arthritis; Penicillin allergy
1175	48	female	Renal carcinoma; Metabolic acidosis; Adrenal metastases; Renal cell carcinoma
1187	61	male	Rectal carcinoma; Adenocarcinoma, synchronous; Polyp, malignant; Cardiovascular abnormality; Nephrolithiasis
1213	47	female	Leiomyoma; Menorrhagia
1226	34	female	Ulcerative colitis
1251	54	female	Liver failure, primary; Sclerosing cholangitis
1267	75	male	Heart failure(COD); Valvular heart disease; Senile involutive cortical changes; Myocardial infarction; Benign prostatic hyperplasia; Typhoid; Syphilis
1268	80	female	Heart failure(COD); Senile brain amyloidosis; Cerebrovascular

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**GPR22** G protein-coupled receptor (GPR22)

Donor ID	Age	Sex	Diagnosis
			accident; Angina; Diabetes mellitus; Dehydration; Polyarthrosis; Spondylosis
1269	62	female	Cardiac asthma(COD); Cerebellar syndrome; Retroperitoneal abscess; Optic neuritis
1273	82	male	Cognitively normal
1274	98	female	Myocardial infarction(COD)
1275	86	female	No history supplied
1276	89	male	Sigmoid colon carcinoma(COD); Adenocarcinoma(COD); Basal cell carcinoma; Cardiovascular disease
1277	87	male	No history supplied
1280	61	male	Cardiac arrest(COD); Alzheimer's disease; Parkinson's disease; Cerebral atrophy; Hypertension; Pulmonary emphysema; Benign prostatic hyperplasia; Hypercholesterolaemia
1284	88	female	Heart failure(COD); Gastroenteritis
1293	47	male	Subarachnoid haemorrhage(CoD); Cytomegalovirus carrier
1300	51	male	Myocardial infarction(COD)
1301	61	female	Lung carcinoma(CoD); Cerebral metastases
1305	87	female	Intracranial haemorrhage(COD); Renal carcinoma
1306	49	male	Intracranial haemorrhage(CoD); Pneumonia
1309	47	male	Intracranial haemorrhage(COD)
1310	71	male	Intracranial haemorrhage(CoD); Polycystic kidney disease; Hypertension; Renal atheroma
1312	37	female	Astrocytoma(COD)
1315	44	female	Subarachnoid haemorrhage(COD); Headache
1317	55	male	Subarachnoid haemorrhage(CoD); Bronchopneumonia; Asthma in childhood; Tuberculosis
1319	46	male	Glioblastoma(COD); Grade 4
1452	33	female	Subarachnoid haemorrhage(CoD)
1641	72	female	Myocardial infarction(COD); Cardiac rupture(COD)
1642	73	female	Aortic aneurysm(COD)
1643	56	male	Cardiac arrest(COD); Coronary artery thrombosis; Coronary atherosclerosis
1645	79	female	Cardiac arrest(COD); Atheroma

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Donor ID	Age	Sex	Diagnosis
1650	68	male	Pulmonary embolism(COD)
1679	71	female	Intraductal breast carcinoma; Grade 2; Oestrogen receptor positive; Bladder carcinoma; Intraepithelial squamous cell carcinoma of skin; Eczema
1684	67	male	Rectal carcinoma; Bladder carcinoma
1696	72	female	Bladder carcinoma
1716	80	female	No history supplied
1718	84	female	Gastrointestinal haemorrhage(COD)
1719	56	male	Myocardial infarction(COD)
1818	60	female	Ischaemic heart disease; Left Ventricular Ejection Fraction; 25%
1820	32	female	Postpartum cardiomyopathy; Heart failure
1977	50	male	Multiple sclerosis(COD); Aspiration pneumonia(COD); Cachexia(COD); Internuclear ophthalmoplegia; Pneumonia; Nephrolithiasis; Eczema, seborrhoeic
1983	72	female	Heart failure(CoD); Chronic Obstructive Pulmonary Disease(CoD); Pulmonary emphysema; Oedema
1991	79	female	Heart failure(COD); Ischaemic heart disease; Coronary atherosclerosis
1992		male	No history supplied
1995	33	female	Ovarian cyst; Cystadenoma, mucinous
2004	70	female	Ischaemic heart disease(CoD); Cognitively normal
2005	71	male	Myocardial infarction(COD); Cognitively normal
2026	65	male	Colon carcinoma; Adenocarcinoma
2047	74	male	Pneumonia(COD); Prostatic carcinoma; Pick's disease; Transient ischaemic attack; Intermittent claudication; Pulmonary emphysema; Renal dysfunction; Diverticulitis; Arthrosis
2050	37	male	Road traffic accident(CoD)
2054		ns	No history supplied
2110	80	female	Breast carcinoma, fungating(COD); Adenocarcinoma(COD); Lung carcinoma; Hiatus hernia; Anaemia
2111	5	male	Asthma; Tonsillitis
2184	71	female	Myocardial infarction(COD); Extradural haemorrhage; Systemic lupus erythematosus; Liver cirrhosis; Hepatitis, chronic; Non

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Donor ID	Age	Sex	Diagnosis
			insulin dependent diabetes mellitus
2215	49	female	Malignant melanoma; Irritable bowel syndrome; Menorrhagia
2220	55	female	Endometriosis; Menorrhagia; Angina; Depression; Migraine
2246	86	male	Pneumonia(COD); Bronchopneumonia; Dementia; Aortic atheroma
2275		ns	No significant history
2323	83	female	Cerebrovascular accident(COD); Alzheimer's disease; Epilepsy; Myocardial infarction; Angina pectoris; Heart disease; Hypertension; Hypercholesterolaemia; Depression
2416	23	male	Arteriosclerotic cardiovascular disease(COD)
2459	49	female	Myocardial infarction(COD); Heart disease; Cytomegalovirus carrier
2486		ns	No significant history
3014	80	female	No history supplied
3016	86	female	No history supplied
3253	89	female	Myocardial infarction(COD); Cerebrovascular accident
3289	49	female	Endometriosis; Leiomyoma; Irritable bowel syndrome
3323	77	female	Pulmonary embolism(COD); Pulmonary infarction(COD); Myocardial infarction

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## Correlation Report:

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No. of targets with Correlation Coefficient > 0.9:	0
No. of targets with Correlation Coefficient > 0.8 and <= 0.9:	1
No. of targets with Correlation Coefficient > 0.7 and <= 0.8:	61

A correlation coefficient close to 1.0 may indicate that the expression profiles of two genes are very similar

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## Glossary of terms:

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- **Target** - mRNA gene transcript which has been profiled
- **Control** - housekeeping gene (GAPDH) incorporated as a quality control for the RT-PCR process
- **GSC** - Global standard curve, a composite standard curve used to calculate copy number (see below)
- **Donor ID** - unique identification number assigned by Asterand to each human tissue donor
- **Ct** - the cycle number at which a PCR product is detected (threshold cycle)
- **Tct** - the cycle number at which the Target PCR product is detected
- **TCn** - target copy number as determined using the global standard curve (GSC)
- **CCt** - the cycle number at which the Control PCR product is detected
- **CCn** - control copy number as determined using the global standard curve (GSC)

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## Construction of the global standard curve

The criteria for successful primer-probe design are extremely rigorous, and it has been our experience that the efficiency of amplification by PCR with primer-probe sets that conform to these criteria is very high. As a result we have found it feasible to generate a global standard curve (GSC), which can be applied to measurements of expression of all genes. In order to quantify the number of copies of mRNA in the assay it is necessary to correlate the number of PCR cycles required to reach threshold with the starting copy number. This has been done for 81 genes (Fig.1). This is particularly useful in situations where the primer-probe sets are positioned such that they span an intron and therefore fail to amplify from genomic DNA. In these circumstances quantification of starting copy number has to be carried out using a different set of standards from the target of interest.

The GSC covers a copy number range of 1000 to 20000. For some genes this has been extended to cover a wider range (25-250,000 copies). For the genes that have been investigated, similar results to the GSC have been obtained and a representative standard curve is shown in Fig.2. This provides confidence in estimating copy number over the range 25 - 250,000 copies based on the GSC equation.

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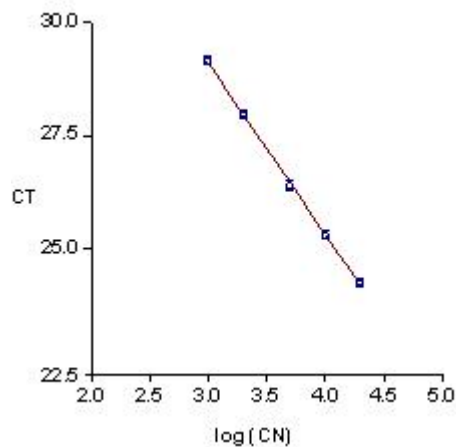


Fig. 1 Regression analysis of global standard curve data showing the mean Ct with SEM and regression fit. The relationship between log copy number (Cn) and threshold cycle (Ct) is linear. Results from 150 individual standard curves performed for 81 targets were pooled to construct the global standard curve (GSC). Linear regression ( $y = mx+c$ ) was performed on the 1476 data points and produced fit parameters of y intercept (c) of 40.007 and slope (m) of 3.623.

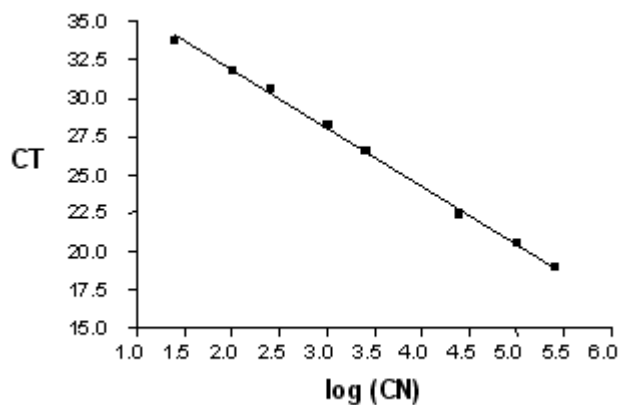


Fig. 2 Regression analysis of extended standard curve data showing the mean Ct and regression fit. Linear regression ( $y = mx+c$ ) was performed and produced fit parameters of y intercept (c) of 39.38 and slope (m) of 3.77, very similar to those derived from Figure 1.