

Supplementary Table S1. PCR primers used for detection of *PDYN* SNPs

SNP ID	Location	Primer sequence
rs1997794	Promoter	5'-GTCCCTCTCTCCTTGTGTTTCT-3' (F) 5'-GCCCCCTCTGGATGTTACCT-3' (R)
rs6045819	Exon 4	5'-CCCAAGGAGCAGGTCAAAC-3' (F) 5'-TCCCACGCAGAAGAGAGATA-3' (R)
rs10485703	3'UTR	5'-TTTGGAGACGATGCTTTAGGTA-3' (F)
rs910080	3'UTR	5'-CTTTCTGGTTTTATTTTGAGACA-3' (R)
rs910079	3'UTR	
rs2235749	3'UTR	

Supplementary Table S2.

Association test of PDYN variants in Caucasians

	Genotype			Point-wise <i>P</i> value	Alleles		Point-wise <i>P</i> value
	GG	AG	AA		G	A	
rs1997794 (A>G)							
Controls	9	23	33		41	89	
Cocaine dependent	3	7	7	0.775	13	21	0.459
Cocaine/Alcohol codependent	6	10	8	0.268	22	26	0.077
Combined cases	9	17	15	0.311	35	47	0.099
rs6045819 (T>C)							
	CC	TC	TT		C	T	
Controls	1	7	57		9	121	
Cocaine dependent	0	6	11	0.044	6	28	0.053
Cocaine/Alcohol codependent	0	7	17		7	41	
Combined cases	0	13	28	0.022	13	69	0.038
rs10485703 (T>C)							
	CC	TC	TT		C	T	
Controls	1	6	58		8	122	
Cocaine dependent	0	6	11	0.024	6	28	0.033
Cocaine/Alcohol codependent	0	5	19		5	43	
Combined cases	0	11	30	0.044	11	71	0.072
rs910080 (T>C)							
	CC	TC	TT		C	T	
Controls	4	19	42		27	103	
Cocaine dependent	2	10	5	0.033	14	20	0.014
Cocaine/Alcohol codependent	1	15	8	0.016	17	31	0.044
Combined cases	3	25	13	0.003	31	51	0.007
rs910079 (T>C)							
	CC	TC	TT		C	T	
Controls	4	19	42		27	103	
Cocaine dependent	2	10	5	0.033	14	20	0.014
Cocaine/Alcohol codependent	2	14	8	0.028	18	30	0.023
Combined cases	4	24	13	0.004	32	50	0.004
rs2235749 (C>T)							
	CC	TC	TT		C	T	
Controls	42	19	4		103	27	
Cocaine dependent	5	10	2	0.033	20	14	0.014
Cocaine/Alcohol codependent	8	14	2	0.028	30	18	0.023

Supplement Table S3

Association test of *PDYN* variants in African Americans

	Genotype			Point-wise <i>P</i> value	Alleles		Point-wise <i>P</i> value
	GG	AG	AA		G	A	
rs1997794 (G>A)							
Controls	46	27	3		119	33	
Cocaine dependent	33	20	8	0.145	86	36	0.139
Cocaine/Alcohol codependent	38	21	8	0.199	97	37	0.247
Combined cases	71	41	16	0.127	183	73	0.130
rs6045819 (T>C)							
Controls	8	27	41		43	109	
Cocaine dependent	5	24	32	0.844	34	88	0.939
Cocaine/Alcohol codependent	6	23	38	0.926	35	99	0.681
Combined cases	11	47	70	0.898	69	187	0.770
rs10485703 (T>C)							
Controls	1	22	53		24	128	
Cocaine dependent	3	11	47	0.180	17	105	0.669
Cocaine/Alcohol codependent	1	16	50	0.791	18	116	0.574
Combined cases	4	27	97	0.350	35	221	0.557
rs910080 (T>C)							
Controls	17	32	27		66	86	
Cocaine dependent	17	31	13	0.191	65	57	0.105
Cocaine/Alcohol codependent	13	27	27	0.822	53	81	0.508
Combined cases	30	58	40	0.819	118	138	0.600
rs910079 (T>C)							
Controls	19	32	25		70	82	
Cocaine dependent	19	31	11	0.145	69	53	0.084
Cocaine/Alcohol codependent	14	29	24	0.835	57	77	0.551
Combined cases	33	60	35	0.687	126	130	0.536
rs2235749 (C>T)							
Controls	25	32	19		82	70	
Cocaine dependent	11	31	19	0.145	53	69	0.084
Cocaine/Alcohol codependent	24	29	14	0.835	77	57	0.551
Combined cases	35	60	33	0.687	130	126	0.536

Supplementary Table S4

Subject mhbb ID	Ethnicity	Age	HIV status	PMI (h)	SNPs						pH	RIN	PDYN mRNA**
					rs1997794	rs6045819	rs10485703	rs910080	rs910079	rs2235749			
516	H	58	-	13.5	GG	TT	TT	TC	TC	CT	6.36	7.9	2.18
531	C	44	-	21.5	AA	TT	TT	TT	TT	CC	6.52	7.0	4.48
553*	H	46	-	16.0	GG	TT	TT	TT	TC	CT	6.58	8.7	2.20
568	H	48	-	16.0	AG	TT	TT	TC	TC	CT	6.62	7.0	2.12
577	C	65	-	17.5	AA	TT	TT	TT	TT	CC	6.89	7.7	3.52
584*	C	53	-	22.5	AG	TT	TT	TC	TC	CT	6.72	8.3	1.62
588	H	21	-	18.5	AA	TT	TT	TT	TT	CC	6.57	7.7	2.30
589	H	61	-	6.5	GG	TT	TT	CC	CC	TT	6.79	7.0	1.95
594	C	57	-	24.0	AA	TT	TT	TT	TT	CC	6.84	7.0	1.84
601*	H	58	-	16.5	AG	TC	TC	TC	TC	CT	6.08	7.5	1.84
604	AA	48	-	9.0	GG	TC	TT	TT	TT	CC	6.97	9.2	3.11
606	H	50	-	16.0	AA	TT	TT	TT	TT	CC	6.78	7.7	3.05
610	AA	54	-	27.0	AG	TT	TT	TT	TT	CC	6.48	6.9	4.47
611	AA	59	-	28.4	GG	TC	TC	TC	TC	CT	6.03	6.3	0.72
613	A	55	-	24.0	GG	TT	TT	CC	CC	TT	6.42	5.3	2.21
10001	AA	64	+	4.5	GG	TT	TT	CC	CC	TT	6.97	8.7	2.40
10002	AA	58	+	15.5	GG	TT	TT	TC	TC	CT	7.13	8.4	1.80
10003	C	45	+	8.0	AA	TT	TT	TT	TT	CC	6.35	5.0	1.99
10011	H	44	+	8.5	AG	TT	TT	TC	TC	CT	6.77	8.0	1.91
10013	C	33	+	17.0	AG	TT	TT	TT	TT	CC	6.78	7.0	4.98
10015	C	33	+	20.0	AA	TT	TT	TT	TT	CC	6.79	6.9	1.93
10016	AA	58	+	17.0	AG	TT	TT	TC	TC	CT	6.07	5.6	1.68
10023	AA	53	+	4.5	GG	TC	TC	CC	CC	TT	6.79	7.1	1.45
10025	H	46	+	7.5	AA	TT	TT	TT	TT	CC	6.53	7.9	3.98
10027	H	39	+	6.0	AG	TT	TC	CC	CC	TT	6.67	6.0	0.79
10034	H	49	+	5.0	AG	TC	TC	TC	TC	CT	6.74	8.2	2.01
10043	AA	34	+	17.0	GG	CC	CC	CC	CC	TT	6.64	7.7	2.06
10045	H	31	+	9.0	AG	TC	TT	TT	TT	CC	6.77	5.4	1.35
10052	AA	39	+	5.0	GG	TC	TC	TC	TC	CT	7.06	8.5	1.83
10063	H	51	+	5.0	AG	TT	TT	TC	TC	CT	6.82	8.4	1.71
10064	C	49	+	12.0	AG	TC	TC	TC	TC	CT	6.24	6.2	1.59
10065	H	46	+	7.0	AG	TT	TT	TC	TC	CT	6.61	7.4	2.97
10066*	AA	54	+	7.0	AG	TT	TT	TC	TC	CT	6.37	8.5	3.09
10067*	A	28	+	8.0	AG	TT	TT	TC	TC	CT	6.74	8.2	2.59
10074	AA	41	+	17.5	GG	TT	TT	TC	TC	CT	6.53	7.8	1.91
10086	AA	48	+	7.5	GG	TC	TT	TT	TT	CC	6.71	8.2	2.77
10094*	H	41	+	6.5	AG	TT	TT	TC	TC	CT	7.38	9.5	1.8
10103	H	40	+	6.0	AA	TT	TT	TT	TT	CC	6.94	6.8	2.08
10133	C	48	+	7.5	AA	TT	TT	TT	TT	CC	6.78	7.4	3.88
20024	C	62	+	4.0	AG	TT	TT	TT	TC	CT	6.74	9.4	1.27
A9695*	C	48	-	19.5	GG	TT	TT	TC	TC	CT	-.***	6.5	0.43
A94189*	C	69	-	15.0	AG	TC	TC	TC	TC	CT	-.***	7.7	1.94
A9766	C	61	-	22.0	GG	TC	TC	CC	CC	TT	-.***	8.4	2.59

*- tested for allele-specific expression, PMI- postmortem interim (hours),

C- Caucasians, AA- African Americans, H- Hispanics, A- Asians

Brains A9695, A9766, and A94189 from from Alzheimer's Disease Research Center (Mount Sinai Medical Center, New York)

** - PDYN mRNA levels are shown as pg/ μ g total RNA; *** - specimens provided in guanidine thiocyanate

Supplement Table S5

Peak area ratios (T/C) for genomic DNA and cDNA
using the reporter SNP rs 910079 in heterozygous samples

Sample mhbb ID	Genomic DNA Mean \pm s.d.	Caudate cDNA Mean \pm s.d.	Nucleus Accumbens cDNA Mean \pm s.d
553	1.00 \pm 0.03	1.00 \pm 0.06	0.97 \pm 0.04
584	1.00 \pm 0.19	2.23 \pm 0.31	2.14 \pm 0.23
601	1.00 \pm 0.10	1.90 \pm 0.17	1.81 \pm 0.13
A94189	1.00 \pm 0.10	1.65 \pm 0.10	1.81 \pm 0.10
10066	1.00 \pm 0.16	1.59 \pm 0.11	1.72 \pm 0.19
10067	1.00 \pm 0.10	2.03 \pm 0.14	1.29 \pm 0.08
10094	1.00 \pm 0.06	2.18 \pm 0.24	1.75 \pm 0.21
A9695	1.00 \pm 0.07	2.06 \pm 0.16	1.79 \pm 0.15

Brains A9695 and A94189 are from Alzheimer's Disease Research Center

Supplementary Table S6

Linkage disequilibrium measures for markers in PDYN in control samples
(comparison with HapMap database)

		This study - Caucasians		HapMap* - CEU	
marker 1	marker 2	D'	r ²	D'	r ²
rs2235749	rs910079	1	1	1	0.95
rs2235749	rs910080	1	1	1	0.95
rs2235749	rs10485703	1	0.25	1	0.394
rs2235749	rs6045819	0.837	0.199	0.65	0.232
rs2235749	rs1997794	0.941	0.504	0.807	0.366
rs910079	rs910080	1	1	1	1
rs910079	rs10485703	1	0.25	1	0.42
rs910079	rs6045819	0.837	0.199	0.669	0.261
rs910079	rs1997794	0.941	0.504	0.873	0.398
rs910080	rs10485703	1	0.25	1	0.455
rs910080	rs6045819	0.837	0.199	0.704	0.301
rs910080	rs1997794	0.941	0.504	0.882	0.419
rs10485703	rs6045819	0.864	0.658	1	0.748
rs10485703	rs1997794	1	0.142	0.887	0.193
rs6045819	rs1997794	0.789	0.1	0.911	0.272

		This Study--African Amer.		HapMap - YRI	
marker 1	marker 2	D'	r ²	D'	r ²
rs2235749	rs910079	1	1	1	0.964
rs2235749	rs910080	1	0.899	1	0.896
rs2235749	rs10485703	1	0.22	1	0.241
rs2235749	rs6045819	0.336	0.052	0.481	0.115
rs2235749	rs1997794	0.174	0.007	0.2	0.006
rs910079	rs910080	1	0.899	1	0.934
rs910079	rs10485703	1	0.22	1	0.264
rs910079	rs1997794	0.174	0.007	0.328	0.018
rs910080	rs10485703	1	0.244	1	0.291
rs910080	rs1997794	0.314	0.021	0.351	0.022
rs10485703	rs6045819	0.797	0.302	0.93	0.380
rs10485703	rs1997794	0.101	0.001	0.356	0.005
rs6045819	rs1997794	0.197	0.004	0.057	0.000

* - HapMap data (Rel23a/PHASEII, 03/08, NCBI B36, dbSNP 126)