Table S1. The influence of various independent variables on the platelet 5-HT levels and platelet MAO-B activity in asthma patients and healthy control subjects, assessed by multiple linear regression analysis.

Multiple linear regression analysis	Platelet 5-HT concentration	Platelet MAO-B activity
Model summary	adjR^2=0.068;ΔR^2=0.111; F=2.585; p=0.004	adjR^2=0.110;ΔR^2=0.151; F=2.585; p=0.00008
Diagnosis	β=0.194; p=0.008	β=0.026; p=0.712
Age	β=-0.050; p=0.506	β=-0.167; p=0.023
Gender	β=-0.111; p=0.444	β=0.266; p=0.00008
BMI	β=0.052; p=0.193	β=-0.175; p=0.009
Smoking	β=-0.013; p=0.840	β=0.040; p=0.520
HTR2A rs6314	β=-0.138; p=0.045	β=0.079; p=0.234
HTR2A rs6313	β=0.020; p=0.762	β=-0.001; p=0.985
HTR2C rs3813929	β=-0.107; p=0.160	β=-0.044; p=0.557
HTR2C rs518147	β=-0.060; p=0.423	β=-0.039; p=0.598
MAOB rs1799836	β=0.084; p=0.327	β=0.102; p=0.221
MAOB rs6651806	β=-0.041; p=0.640	β=-0.077; p=0.371

Variables	Area under the curve (AUC)
Platelet 5-HT concentration	0.374
Platelet MAO-B activity	0.650
MAOB rs1799836 polymorphism	0.494
MAOB rs6651806 polymorphism	0.500
HTR2A rs6314 polymorphism	0.542
HTR2A rs6313 polymorphism	0.544
HTR2C rs3813929 polymorphism	0.471
HTR2C rs518147 polymorphism	0.500

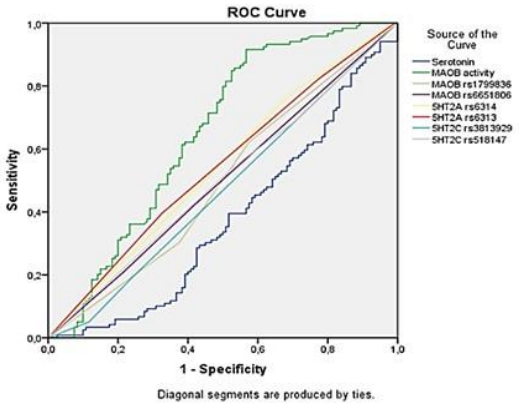

Figure S1. Receiver operating characteristic curve (ROC) analysis was performed on the whole sample (120 control subjects + 120 asthma patients) and area under the curve (AUC) was determined for variables such as platelet 5-HT concentration and MAO-B activity, as well as gene polymorphisms (*MAOB* rs1799836, *MAOB* rs6651806, *HTR2A* rs6314, *HTR2A* rs6313, *HTR2C* rs3813929, and *HTR2C* rs518147).

Table S2. The influence of various independent variables on the platelet 5-HT levels and platelet MAO-B activity in subjects with severe and non-severe asthma, assessed by multiple linear regression analysis.

	Platelet 5-HT concentration	Platelet MAO-B activity
Model summary	adjR^2=-0.021;ΔR^2=0.074; F=0.776; *p*=0.663	adjR^2=0.092;ΔR^2=0.177; F=2.090; *p*=0.027
Diagnosis	β=0.030; *p*=0.761	β=0.101; *p*=0.280
Age	β=-0.017; *p*=0.876	β=-0.212; *p*=0.046
Gender	β=-0.005; *p*=0.960	β=0.216; *p*=0.017
BMI	β=0.089; *p*=0.375	β=-0.110; *p*=0.243
Smoking	β=-0.027; *p*=0.780	β=0.240; *p*=0.010
HTR2A rs6314	β=-0.166; *p*=0.098	β=0.055; *p*=0.556
HTR2A rs6313	β=0.021; *p*=0.830	β=-0.030; *p*=0.744
HTR2C rs3813929	β=-0.143; *p*=0.214	β=-0.193; *p*=0.078
HTR2C rs518147	β=-0.075; *p*=0.504	β=-0.062; *p*=0.562
MAOB rs1799836	β=0.047; *p*=0.708	β=-0.055; *p*=0.642
MAOB rs6651806	β=-0.235; *p*=0.078	β=-0.014; *p*=0.908

Variables	Area under the curve (AUC)
Platelet 5-HT concentration	0.456
Platelet MAO-B activity	0.510
MAOB rs1799836 polymorphism	0.463
MAOB rs6651806 polymorphism	0.458
HTR2A rs6314 polymorphism	0.521
HTR2A rs6313 polymorphism	0.551
HTR2C rs3813929 polymorphism	0.484
HTR2C rs518147 polymorphism	0.573

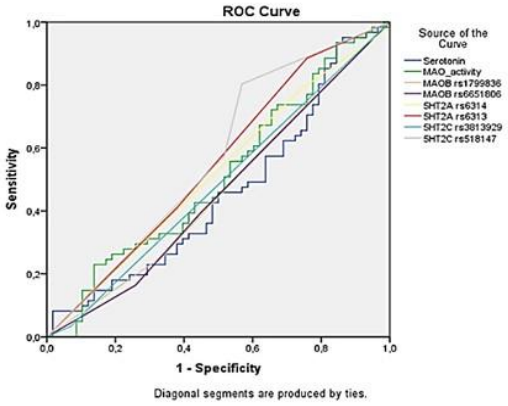

Figure S2. Receiver operating characteristic curve (ROC) analysis was performed on the 120 patients with asthma, divided on the severe and non-severe asthma patients and area under the curve (AUC) was determined for variables such as platelet 5-HT concentration and MAO-B activity, as well as gene polymorphisms (*MAOB* rs1799836, *MAOB* rs6651806, *HTR2A* rs6314, *HTR2A* rs6313, *HTR2C* rs3813929, and *HTR2C* rs518147).

Table S3. Genotype and allele frequencies of *HTR2A, HTR2C,* and *MAOB* polymorphisms in control subjects and asthma patients.

SNP	Genotype N (%)			χ2-test	Allele N (%)		χ2-test
HTR2A rs6314	**AA**	**AG**	**GG**		**A**	**G**	
Control subjects	2 (1.7)	35 (29.2)	82 (68.3)	p=0.40;	39 (24.0)	199 (76.0)	p=0.18;
Asthma patients	1 (0.8)	27 (22.5)	92 (76.7)	χ^2=2.94	29 (19.0)	211 (81.0)	χ^2=1.81
HTR2A rs6313	**AA**	**AG**	**GG**		**A**	**G**	
Control subjects	26 (21.8)	54 (45.4)	39 (32.8)	p=0.51;	106 (44.5)	132 (55.5)	p=0.23;
Asthma patients	21 (17.5)	52 (43.3)	47 (39.2)	χ^2=2.31	94 (39.2)	146 (60.8)	χ^2=1.42
HTR2C rs3813929	**CC/C**	**CT**	**TT/T**		**C**	**T**	
Control subjects	91 (75.8)	15 (12.5)	14 (11.7)	p=0.17;	135 (80.8)	32 (19.1)	p=0.04;
Asthma patients	97 (80.8)	17 (14.2)	6 (5.0)	χ^2=3.52	176 (88.4)	23 (11.6)	χ^2=4.11
HTR2C rs518147	**CC/C**	**CG**	**GG/G**		**C**	**G**	
Control subjects	35 (29.2)	21 (17.5)	64 (53.3)	p=0.76;	63 (37.7)	104 (62.3)	p=0.93;
Asthma patients	38 (31.7)	17 (14.2)	65 (54.2)	χ^2=0.55	76 (38.2)	123 (61.8)	χ^2=0.00
MAOB rs1799836	**CC/C**	**CT**	**TT/T**		**C**	**T**	
Control subjects	45 (37.5)	24 (20.0)	51 (42.5)	p=0.11;	85 (50.9)	82 (49.1)	p=0.58;
Asthma patients	36 (30.0)	38 (31.7)	46 (38.3)	χ^2=4.42	107 (53.8.8)	92 (46.2)	χ^2=0.30
MAOB rs6651806	**AA/A**	**AC**	**CC/C**		**A**	**C**	
Control subjects	70 (58.3)	24 (20.0)	26 (21.7)	p=0.98;	110 (65.9)	57 (34.1)	p=0.64;
Asthma patients	69 (57.5)	25 (20.8)	25 (20.8)	χ^2=0.04	135 (68.2)	63 (31.8)	χ^2=0.22

Table S4. The distribution of *HTR2C* (rs3813929 and rs518147), and *MAOB* (rs1799836 and rs6651806) haplotypes in control subjects and asthma patients.

Gene	Haplotype	Control subjects n (Frequency)	Asthma patients n (Frequency)	χ^2-test
HTR2C	CG	104 (62.3%)	123 (61.8%),	χ^2=0.01; p=0.93
	CC	31 (18.6%)	53 (26.6%)	χ^2=3.34; p=0.07
	TC	32 (19.2%)	23 (11.6%)	χ^2=4.11; p=0.04
MAOB	TA	84 (50.1%)	102 (51.4%)	χ^2=0.05; p=0.81
	CC	56 (33.4%)	60 (30.3%)	χ^2=0.39; p=0.53
	CA	26 (15.7%)	32 (16.1%)	χ^2=0.01; p=0.92
	TC	1 (0.8%)	4 (2.2%)	χ^2=1.20; p=0.27

Table S5. Genotype and allele frequencies of *HTR2A, HTR2C,* and *MAOB* polymorphisms in non-severe and severe asthma patients.

SNP	Genotype (n, %)			χ2-test	Allele (n, %)		χ2-test
HTR2A rs6314	**AA**	**AG**	**GG**		**A**	**G**	
Non-severe asthma	0 (0.0)	15 (25.4)	44 (74.6)	p=0.48;	15 (12.7)	103 (87.3)	p=0.77;
Severe asthma	1 (1.6)	12 (19.7)	48 (78.7)	$\chi2$=1.47	14 (11.5)	108 (88.5)	$\chi2$=0.09
HTR2A rs6313	**AA**	**AG**	**GG**		**A**	**G**	
Non-severe asthma	14 (23.7)	23 (39.0)	22 (37.3)	p=0.20;	51 (43.2)	67 (56.8)	p=0.21;
Severe asthma	7 (11.5)	29 (47.5)	25 (41.0)	$\chi2$=3.28	43 (35.2)	79 (64.8)	$\chi2$=1.60
HTR2C rs3813929	**CC/C**	**CT**	**TT/T**		**C**	**T**	
Non-severe asthma	47 (79.6)	8 (13.6)	4 (6.8)	p=0.67;	83 (87.4)	12 (12.6)	p=0.65;
Severe asthma	50 (82.0)	9 (14.8)	2 (3.2)	χ^2=0.78	93 (89.4)	11 (10.6)	χ^2=0.20
HTR2C rs518147	**CC/C**	**CG**	**GG/G**		**C**	**G**	
Non-severe asthma	26 (44.07)	3 (5.08)	30 (50.85)	p=0.002;	43 (45.3)	52 (54.7)	p=0.05;
Severe asthma	12 (19.67)	14 (22.95)	35 (57.38)	χ^2=12.63	33 (31.7)	71 (68.3)	χ^2=3.85
MAOB rs1799836	**CC/C**	**CT**	**TT/T**		**C**	**T**	
Non-severe asthma	20 (33.9)	17 (28.8)	22 (37.3)	p=0.63;	48 (50.5)	47 (49.5)	p=0.38;
Severe asthma	16 (26.2)	21 (34.4)	24 (39.4)	χ^2=0.92	59 (56.7)	45 (43.3)	χ^2=0.77
MAOB rs6651806	**AA/A**	**AC**	**CC/C**		**A**	**C**	
Non-severe asthma	32 (55.2)	11 (19.0)	15 (25.8)	p=0.44;	60 (63.2)	34 (35.8)	p=0.21;
Severe asthma	37 (60.6)	14 (23.0)	10 (16.4)	χ^2=1.65	75 (72.1)	29 (27.9)	χ^2=1.56

Table S6. The distribution of *HTR2C* (rs3813929 and rs518147), and *MAOB* (rs1799836 and rs6651806) haplotypes in non-severe and severe asthma patients.

Gene	Haplotype	Non-severe asthma n (Frequency)	Severe asthma n (Frequency)	χ^2-test
HTR2C	CG	52 (54.7%)	71 (68.3%)	χ^2=3.85; p=0.05
	CC	31 (32.6%)	22 (21.2%)	χ^2=3.35; p=0.07
	TC	12 (12.6%)	11 (10.6%)	χ^2=0.20; p=0.65
MAOB	TA	44 (46.3%)	58 (55.8%)	χ^2=1.22; p=0.27
	CC	31 (32.6%)	28 (26.9%)	χ^2=0.90; p=0.34
	CA	16 (16.8%)	17 (16.3%)	χ^2=0.00; p=0.98
	TC	3 (3.2%)	1 (1.0%)	χ^2=0.49; p=0.49