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Acute psychotropic, autonomic, and endocrine effects of 5,6-methylenedioxy-2-aminoindane (MDAI) compared with 3,4-methylenedioxymethamphetamine (MDMA) in human volunteers: A self-administration study

Acute psychotropic, autonomic, and endocrine effects of 5,6-methylenedioxy-2-aminoindane (MDAI) compared to 3,4-methylenedioxymethamphetamine (MDMA) in human volunteers: a self-administration study.

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Table S1. Mean ± SEM values for the acute effects of MDMA and MDAI						
				MDMA 75mg[a]	MDMA 125mg[b]	MDAI 3.0 mg/kg
Vital signs						
		Systolic blood pressure (mm Hg)	E_{max}	145.0 ± 2.5	154.9 ± 3.4	150.0 ± 6.1
		Diastolic blood pressure (mm Hg)	E_{max}	83.8 ± 1.5	94.8 ± 2.8	94.0 ± 2.1
		Mean arterial blood pressure (mm Hg)	E_{max}	103.1 ± 1.6	114.5 ± 2.0	112.0 ± 3.0
		Heart rate (beats/min)	E_{max}	83.5 ± 3.1	93.5 ± 4.3	72.5 ± 4.5
		Body temperature (°C)	ΔE_{max}	0.35 ± 0.06	0.83 ± 0.11	0.27 ± 0.14
Subjective effects						
Visual Analog Scale (VAS, %max)						
		Any drug effect	ΔE_{max}	57.5 ± 5.5	78.2 ± 7.4	80.0 ± 12.5
		Good drug effect	ΔE_{max}	58.6 ± 5.5	77.3 ± 7.5	79.7 ± 12.5
		Bad drug effect	ΔE_{max}	21.2 ± 5.2	20.1 ± 6.3	13.8 ± 7.1
		Drug high	ΔE_{max}	56.3 ± 5.8	75.9 ± 7.7	68.8 ± 15.0
		Drug liking	ΔE_{max}	57.2 ± 6.1	80.7 ± 6.9	82.7 ± 8.1
		Stimulated	ΔE_{max}	56.3 ± 5.8	76.4 ± 8.2	68.0 ± 14.9
		Happy	ΔE_{max}	20.0 ± 3.0	35.1 ± 4.6	37.8 ± 7.1
		Open	ΔE_{max}	20.9 ± 2.9	32.3 ± 4.5	35.0 ± 7.1
		Trust	ΔE_{max}	16.8 ± 3.0	32.6 ± 5.3	25.3 ± 8.7
		Close to others	ΔE_{max}	15.9 ± 3.0	30.3 ± 5.0	25.8 ± 8.9
Adjective mood rating scale (AMRS score)						
		General activity	ΔE_{max}	1.3 ± 0.6	1.2 ± 1.1	-0.2 ± 1.8
		General Inactivity	ΔE_{max}	1.80 ± 0.84	4.88 ± 0.93	5.00 ± 1.90
		Well-being	ΔE_{max}	3.3 ± 0.9	5.6 ± 1.3	4.3 ± 1.6
		Emotional excitation	ΔE_{max}	2.1 ± 0.6	3.7 ± 1.5	2.8 ± 1.1
		Concentration	ΔE_{max}	0.1 ± 0.4	-0.4 ± 0.6	-0.7 ± 1.3
		Extraversion	ΔE_{max}	1.4 ± 0.5	2.5 ± 0.7	3.7 ± 1.3
		Introversion	ΔE_{max}	0.2 ± 0.3	2.1 ± 0.5	0.8 ± 0.5
		Self-confidence	ΔE_{max}	1.1 ± 0.4	2.9 ± 0.7	1.5 ± 0.7
		Heightened mood	ΔE_{max}	2.4 ± 0.6	3.3 ± 0.6	3.3 ± 0.9
		Anger	ΔE_{max}	0.1 ± 0.2	0.3 ± 0.4	0.0 ± 0.0
		Dreaminess	ΔE_{max}	1.5 ± 0.4	3.6 ± 1.0	3.5 ± 1.3
Altered State of Conciousness (5D-ASC score)						
		3D-ASC total score	% score	6.39 ± 1.25	17.0 ± 4.2	10.8 ± 3.5
		Oceanic Boundlessness	% score	10.35 ± 2.1	26.0 ± 5.6	18.5 ± 5.5
		Anxious Ego-Dissolution	% score	3.2 ± 0.78	10.05 ± 4.3	3.9 ± 1.7
		Visionary restructuralization	% score	4.15 ± 1.08	11.67 ± 4.2	7.2 ± 3.0
		Experience of Unity	% score	6.61 ± 2.03	30.4 ± 7.9	15.8 ± 6.3
		Spiritual Experiance	% score	1.84 ± 1.17	6.11 ± 2.67	7.9 ± 5.2
		Blissful State	% score	21.12 ± 4.1	37.6 ± 9.6	29.5 ± 7.7
		Insightfulness	% score	4.02 ± 1.53	4.96 ± 2.72	8.2 ± 5.6
		Disembodiment	% score	5.99 ± 2.01	13.5 ± 6.4	6.8 ± 3.5
		Impaired Control and Cognition	% score	7.37 ± 1.71	15.2 ± 5.0	7.8 ± 3.6
		Anxiety	% score	0.61 ± 0.31	5.79 ± 4.29	0.4 ± 0.3
		Complex Imagery	% score	3.46 ± 1.14	3.89 ± 2.18	8.0 ± 4.6
		Elementary Imagery	% score	1.22 ± 0.71	12.0 ± 7.4	0.2 ± 0.1
		Audio-Visual Synsthesiae	% score	0.69 ± 0.54	4.60 ± 3.04	2.6 ± 1.6
		Changed Meaning of Percepts	% score	9.77 ± 3.46	24.6 ± 7.3	16.3 ± 6.7
Hormones						
		Cortisol (nmol/l)	E_{max}	648 ± 43	770 ± 45	1015 ± 65
		Prolactin (mU/l)	E_{max}	356 ± .47	874 ± 125	1498 ± 415

Values are mean ± SEM of 30 subjects for MDMA 75 mg[a], 16 subjects for MDMA 125 mg[b], and 6 subjects for MDAI 3.0mg/kg. E_{max} maximal effect; ΔE_{max}, maximal difference from baseline.

[a] Data from Schmid Y, Hysek CM, Simmler LD, Crockett MJ, Quednow BB, Liechti ME. Differential effects of MDMA and

methylphenidate on social cognition. *J Psychopharmacol.* 2014;28(9):847-856. doi:10.1177/0269881114542454.

[b] Data from Hysek CM, Simmler LD, Schillinger N, et al. Pharmacokinetic and pharmacodynamic effects of methylphenidate and MDMA administered alone or in combination. *Int J Neuropsychopharmacol.* 2014;17(3):371-381. doi:10.1017/S1461145713001132

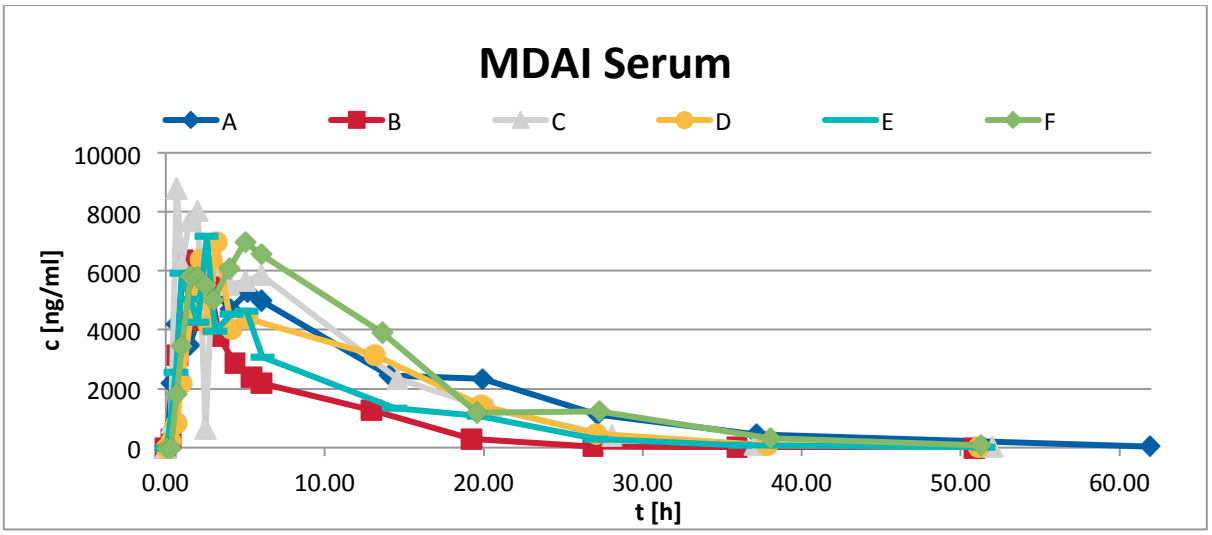

Figure S1. Serum concentrations after a dose of 3.0 mg/kg body weight orally, c_{max} about 5000–9000 ng/ml; t_{max} about 1–3 hours after intake

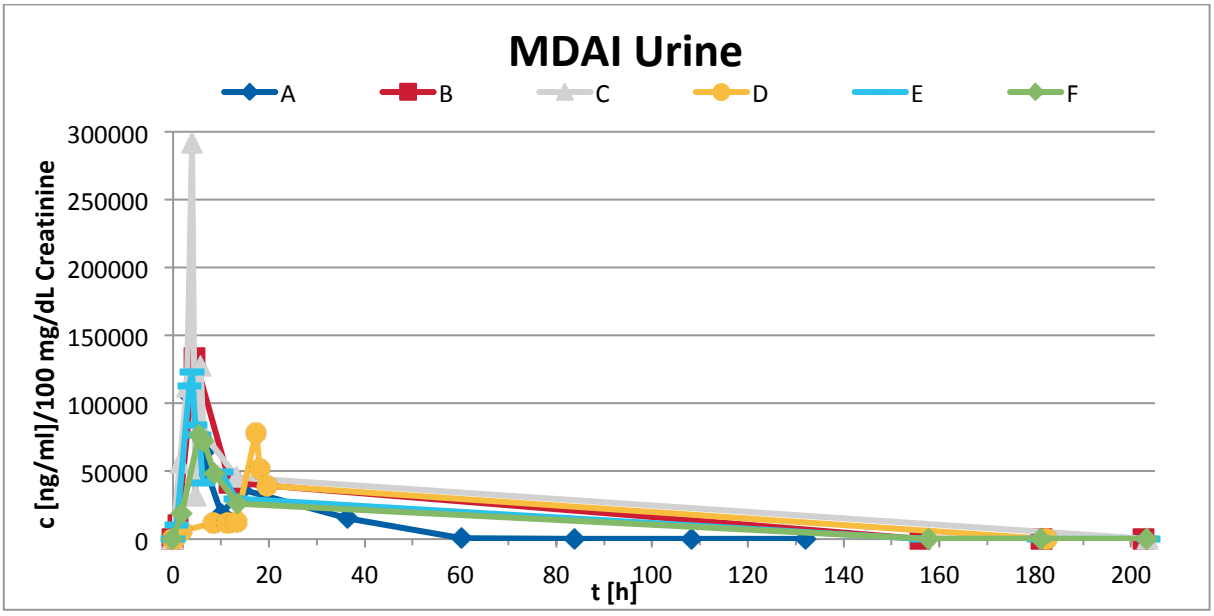

Figure S2. Urine concentrations after a dose of 3.0 mg/kg body weight, normalized to 100 mg creatinine/dL, longest detection 9 days after intake (c = 2 ng/mL) with highest MDAI urine concentration in participant A (poor metabolizer with CYP2D6).