

1 **Supplementary Table 1. Medication usage for all subjects**

Category	Medication	Number of subjects
Pain relief	Ibuprofen	10
	Gabapentin	8
	Cyclobenzaprine	7
	Hydrocodone	6
	Aspirin	3
	Others	13
Depression/anxiety	Duloxetine	8
	Venlafaxine	4
	Lorazepam	3
	Amitriptyline	2
	Bupropion	2
	Trazadone	2
	Alprazolam	2
	Sertraline	2
	Others	5
Other psychosis	Clonazepam	4
	Temazepam	1
	Zolpidem	1
Antihistamine	Cetirizine	3
	Loratadine	3
	Diphenhydramine	1
	Fexofenadine	1
Digestion	Lubiprostone	1
	Pantoprazole	1
	Esomeprazole	1
	Chlordiazepoxide/clidinium bromide	1
Hormones	Levothyroxine	5
	Estrogen	2
	Melatonin	1
	Progesterone	1
Asthma	Salbutamol	1
	Montelukast	1
	Zafirlukast	1
High blood pressure	Prazosin	2
	Propranolol	1
Antibiotic	Azithromycin	1
	Cefuroxime	1
Muscle disease	Pyridostigmine	1
	Baclofen	1
Antiviral	Valacyclovir	1

Supplementary Table 2. N-acetyl aspartate (NAA) differences between fibromyalgia patients and healthy controls

Regions	Metabolites	Group means (standard error)		ANOVA statistics	
		Fibromyalgia	Control	F	p
Anterior insula	NAA:tCr	1.334 (0.134)	1.231 (0.351)	2.37	0.13
	NAA:CSF	8.134 (0.846)	7.736 (2.154)	1.26	0.27
Posterior insula	NAA:tCr	1.389 (0.100)	1.310 (0.351)	1.21	0.28
	NAA:CSF	8.032 (0.454)	7.776 (2.081)	0.67	0.42

Note: NAA:tCr = N-acetyl aspartate ratio to total creatine; NAA:CSF = CSF adjusted N-acetyl aspartate concentration; Age corrected in ANOVA.