Antonia Serrano

List of Publications by Citations

115 papers	3,488 citations	29 h-index	55 g-index
117 ext. papers	3,969 ext. citations	5.2 avg, IF	4.8 L-index

#	Paper	IF	Citations
115	Oleylethanolamide regulates feeding and body weight through activation of the nuclear receptor PPAR-alpha. *Nature*, **2003**, 425, 90-3	50.4	873
114	Endocannabinoid influence in drug reinforcement, dependence and addiction-related behaviors. *Pharmacology & Therapeutics*, **2011**, 132, 215-41	13.9	119
113	Antiobesity effects of the novel in vivo neutral cannabinoid receptor antagonist 5-(4-chlorophenyl)-1-(2,4-dichlorophenyl)-3-hexyl-1H-1,2,4-triazole--LH 21. *Neuropharmacology*, **2006**, 51, 358-66	5.5	109
112	Role of cannabinoid CB2 receptors in glucose homeostasis in rats. *European Journal of Pharmacology*, **2007**, 565, 207-11	5.3	89
111	Regulation of brain anandamide by acute administration of ethanol. *Biochemical Journal*, **2007**, 404, 97-104	3.8	87
110	Activation of cannabinoid CB1 receptors induces glucose intolerance in rats. *European Journal of Pharmacology*, **2006**, 531, 282-4	5.3	81
109	Reduction of body weight, liver steatosis and expression of stearoyl-CoA desaturase 1 by the isoflavone daidzein in diet-induced obesity. *British Journal of Pharmacology*, **2011**, 164, 1899-915	8.6	76
108	Plasma profile of pro-inflammatory cytokines and chemokines in cocaine users under outpatient treatment: influence of cocaine symptom severity and psychiatric co-morbidity. *Addiction Biology*, **2015**, 20, 756-72	4.6	71
107	The cannabinoid CB1 receptor antagonist SR141716A (Rimonabant) enhances the metabolic benefits of long-term treatment with oleoylethanolamide in Zucker rats. *Neuropharmacology*, **2008**, 54, 226-34	5.5	70
106	Discovery of 5-(4-chlorophenyl)-1-(2,4-dichlorophenyl)-3-hexyl-1h-1,2,4-triazole, a novel in vivo cannabinoid antagonist containing a 1,2,4-triazole motif. *Journal of Medicinal Chemistry*, **2004**, 47, 2939-42	8.3	67
105	A place for the hippocampus in the cocaine addiction circuit: Potential roles for adult hippocampal neurogenesis. *Neuroscience and Biobehavioral Reviews*, **2016**, 66, 15-32	9	63
104	Differential effects of single versus repeated alcohol withdrawal on the expression of endocannabinoid system-related genes in the rat amygdala. *Alcoholism: Clinical and Experimental Research*, **2012**, 36, 984-94	3.7	56
103	Oleoylethanolamide prevents neuroimmune HMGB1/TLR4/NF-kB danger signaling in rat frontal cortex and depressive-like behavior induced by ethanol binge administration. *Addiction Biology*, **2017**, 22, 724-741	4.6	55
102	Expression of the cannabinoid system in muscle: effects of a high-fat diet and CB1 receptor blockade. *Biochemical Journal*, **2011**, 433, 175-85	3.8	50
101	Oleylethanolamide impairs glucose tolerance and inhibits insulin-stimulated glucose uptake in rat adipocytes through p38 and JNK MAPK pathways. *American Journal of Physiology - Endocrinology and Metabolism*, **2005**, 289, E923-9	6	47
100	Pharmacological administration of the isoflavone daidzein enhances cell proliferation and reduces high fat diet-induced apoptosis and gliosis in the rat hippocampus. *PLoS ONE*, **2013**, 8, e64750	3.7	46
99	Oleoylethanolamide enhances β-adrenergic-mediated thermogenesis and white-to-brown adipocyte phenotype in epididymal white adipose tissue in rat. *DMM Disease Models and Mechanisms*, **2014**, 7, 129-41	4.1	45

98	Anti-obesity efficacy of LH-21, a cannabinoid CB(1) receptor antagonist with poor brain penetration, in diet-induced obese rats. *British Journal of Pharmacology*, **2012**, 165, 2274-91	8.6	44
97	Deficient endocannabinoid signaling in the central amygdala contributes to alcohol dependence-related anxiety-like behavior and excessive alcohol intake. *Neuropsychopharmacology*, **2018**, 43, 1840-1850	8.7	43
96	Role of the satiety factor oleoylethanolamide in alcoholism. *Addiction Biology*, **2016**, 21, 859-72	4.6	40
95	Pharmacological blockade of either cannabinoid CB1 or CB2 receptors prevents both cocaine-induced conditioned locomotion and cocaine-induced reduction of cell proliferation in the hippocampus of adult male rat. *Frontiers in Integrative Neuroscience*, **2014**, 7, 106	3.2	39
94	Obesity-dependent cannabinoid modulation of proliferation in adult neurogenic regions. *European Journal of Neuroscience*, **2011**, 33, 1577-86	3.5	37
93	Effects of the endogenous PPAR-alpha agonist, oleoylethanolamide on MDMA-induced cognitive deficits in mice. *Synapse*, **2010**, 64, 379-89	2.4	35
92	Oleoylethanolamide, Neuroinflammation, and Alcohol Abuse. *Frontiers in Molecular Neuroscience*, **2018**, 11, 490	6.1	34
91	Pharmacological blockade of the fatty acid amide hydrolase (FAAH) alters neural proliferation, apoptosis and gliosis in the rat hippocampus, hypothalamus and striatum in a negative energy context. *Frontiers in Cellular Neuroscience*, **2015**, 9, 98	6.1	33
90	Evaluation of plasma-free endocannabinoids and their congeners in abstinent cocaine addicts seeking outpatient treatment: impact of psychiatric co-morbidity. *Addiction Biology*, **2013**, 18, 955-69	4.6	33
89	The impact of cocaine on adult hippocampal neurogenesis: Potential neurobiological mechanisms and contributions to maladaptive cognition in cocaine addiction disorder. *Biochemical Pharmacology*, **2017**, 141, 100-117	6	32
88	Oleoylethanolamide: effects on hypothalamic transmitters and gut peptides regulating food intake. *Neuropharmacology*, **2011**, 60, 593-601	5.5	32
87	Antiobesity designed multiple ligands: Synthesis of pyrazole fatty acid amides and evaluation as hypophagic agents. *Bioorganic and Medicinal Chemistry*, **2008**, 16, 10098-105	3.4	31
86	Pharmacological reduction of adult hippocampal neurogenesis modifies functional brain circuits in mice exposed to a cocaine conditioned place preference paradigm. *Addiction Biology*, **2016**, 21, 575-88	4.6	28
85	Lysophosphatidic acid-induced increase in adult hippocampal neurogenesis facilitates the forgetting of cocaine-contextual memory. *Addiction Biology*, **2019**, 24, 458-470	4.6	28
84	Peroxisome Proliferator-Activated Receptors: Experimental Targeting for the Treatment of Inflammatory Bowel Diseases. *Frontiers in Pharmacology*, **2020**, 11, 730	5.6	27
83	Effects of Intermittent Alcohol Exposure on Emotion and Cognition: A Potential Role for the Endogenous Cannabinoid System and Neuroinflammation. *Frontiers in Behavioral Neuroscience*, **2017**, 11, 15	3.5	27
82	Sex differences in psychiatric comorbidity and plasma biomarkers for cocaine addiction in abstinent cocaine-addicted subjects in outpatient settings. *Frontiers in Psychiatry*, **2015**, 6, 17	5	27
81	The systemic administration of oleoylethanolamide exerts neuroprotection of the nigrostriatal system in experimental Parkinsonism. *International Journal of Neuropsychopharmacology*, **2014**, 17, 455-68	5.8	27

80	Novel sulfamide analogs of oleoylethanolamide showing in vivo satiety inducing actions and PPARalpha activation. *Journal of Medicinal Chemistry*, **2007**, 50, 389-93	8.3	27
79	Alcohol-induced cognitive deficits are associated with decreased circulating levels of the neurotrophin BDNF in humans and rats. *Addiction Biology*, **2019**, 24, 1019-1033	4.6	27
78	Chronic administration of recombinant IL-6 upregulates lipogenic enzyme expression and aggravates high-fat-diet-induced steatosis in IL-6-deficient mice. *DMM Disease Models and Mechanisms*, **2015**, 8, 721-31	4.1	26
77	Neuroplastic and cognitive impairment in substance use disorders: a therapeutic potential of cognitive stimulation. *Neuroscience and Biobehavioral Reviews*, **2019**, 106, 23-48	9	26
76	Long-lasting memory deficits in mice withdrawn from cocaine are concomitant with neuroadaptations in hippocampal basal activity, GABAergic interneurons and adult neurogenesis. *DMM Disease Models and Mechanisms*, **2017**, 10, 323-336	4.1	25
75	Antiobesity efficacy of GLP-1 receptor agonist liraglutide is associated with peripheral tissue-specific modulation of lipid metabolic regulators. *BioFactors*, **2016**, 42, 600-611	6.1	21
74	Cocaine-induced behavioral sensitization is associated with changes in the expression of endocannabinoid and glutamatergic signaling systems in the mouse prefrontal cortex. *International Journal of Neuropsychopharmacology*, **2014**, 18,	5.8	20
73	Decreased plasma concentrations of BDNF and IGF-1 in abstinent patients with alcohol use disorders. *PLoS ONE*, **2017**, 12, e0187634	3.7	20
72	Pharmacological Blockade of Cannabinoid CB1 Receptors in Diet-Induced Obesity Regulates Mitochondrial Dihydrolipoamide Dehydrogenase in Muscle. *PLoS ONE*, **2015**, 10, e0145244	3.7	20
71	Plasma concentrations of BDNF and IGF-1 in abstinent cocaine users with high prevalence of substance use disorders: relationship to psychiatric comorbidity. *PLoS ONE*, **2015**, 10, e0118610	3.7	19
70	Localization of the cannabinoid CB1 receptor and the 2-AG synthesizing (DAGL) and degrading (MAGL, FAAH) enzymes in cells expressing the Ca(2+)-binding proteins calbindin, calretinin, and parvalbumin in the adult rat hippocampus. *Frontiers in Neuroanatomy*, **2014**, 8, 56	3.6	19
69	Lipid transmitter signaling as a new target for treatment of cocaine addiction: new roles for acylethanolamides and lysophosphatidic acid. *Current Pharmaceutical Design*, **2013**, 19, 7036-49	3.3	19
68	Diet-dependent modulation of hippocampal expression of endocannabinoid signaling-related proteins in cannabinoid antagonist-treated obese rats. *European Journal of Neuroscience*, **2013**, 37, 105-17	3.5	18
67	Plasma Chemokines in Patients with Alcohol Use Disorders: Association of CCL11 (Eotaxin-1) with Psychiatric Comorbidity. *Frontiers in Psychiatry*, **2016**, 7, 214	5	18
66	Oleoylethanolamide: a new player in peripheral control of energy metabolism. Therapeutic implications. *Drug Discovery Today Disease Mechanisms*, **2010**, 7, e175-e183		18
65	Plasma concentrations of oleoylethanolamide in a primary care sample of depressed patients are increased in those treated with selective serotonin reuptake inhibitor-type antidepressants. *Neuropharmacology*, **2019**, 149, 212-220	5.5	18
64	Pharmacological blockade of fatty acid amide hydrolase (FAAH) by URB597 improves memory and changes the phenotype of hippocampal microglia despite ethanol exposure. *Biochemical Pharmacology*, **2018**, 157, 244-257	6	17
63	Pharmacological activation of CB2 receptors counteracts the deleterious effect of ethanol on cell proliferation in the main neurogenic zones of the adult rat brain. *Frontiers in Cellular Neuroscience*, **2015**, 9, 379	6.1	17

62	Elaidyl-sulfamide, an oleoylethanolamide-modelled PPARα agonist, reduces body weight gain and plasma cholesterol in rats. *DMM Disease Models and Mechanisms*, **2012**, 5, 660-70	4.1	17
61	IL-6 cooperates with peroxisome proliferator-activated receptor-α ligands to induce liver fatty acid binding protein (LFABP) up-regulation. *Liver International*, **2013**, 33, 1019-28	7.9	17
60	Evaluation of plasma cytokines in patients with cocaine use disorders in abstinence identifies transforming growth factor alpha (TGFα) as a potential biomarker of consumption and dual diagnosis. *PeerJ*, **2017**, 5, e3926	3.1	17
59	Environmental Enrichment, Age, and PPARα Interact to Regulate Proliferation in Neurogenic Niches. *Frontiers in Neuroscience*, **2016**, 10, 89	5.1	17
58	Higher Impulsivity As a Distinctive Trait of Severe Cocaine Addiction among Individuals Treated for Cocaine or Alcohol Use Disorders. *Frontiers in Psychiatry*, **2018**, 9, 26	5	16
57	Effects of the anandamide uptake blocker AM404 on food intake depend on feeding status and route of administration. *Pharmacology Biochemistry and Behavior*, **2012**, 101, 1-7	3.9	16
56	Plasma concentrations of oleoylethanolamide and other acylethanolamides are altered in alcohol-dependent patients: effect of length of abstinence. *Addiction Biology*, **2017**, 22, 1366-1377	4.6	15
55	Localization of peroxisome proliferator-activated receptor alpha (PPARα) and N-acyl phosphatidylethanolamine phospholipase D (NAPE-PLD) in cells expressing the Ca(2+)-binding proteins calbindin, calretinin, and parvalbumin in the adult rat hippocampus. *Frontiers in Neuroanatomy*, **2014**, 8, 12	3.6	15
54	Chronic IL-6 Administration Desensitizes IL-6 Response in Liver, Causes Hyperleptinemia and Aggravates Steatosis in Diet-Induced-Obese Mice. *PLoS ONE*, **2016**, 11, e0157956	3.7	15
53	Cocaine-induced behavioral sensitization decreases the expression of endocannabinoid signaling-related proteins in the mouse hippocampus. *European Neuropsychopharmacology*, **2016**, 26, 477-92	1.2	14
52	Cocaine-conditioned place preference is predicted by previous anxiety-like behavior and is related to an increased number of neurons in the basolateral amygdala. *Behavioural Brain Research*, **2016**, 298, 35-43	3.4	14
51	Effects of acute versus repeated cocaine exposure on the expression of endocannabinoid signaling-related proteins in the mouse cerebellum. *Frontiers in Integrative Neuroscience*, **2014**, 8, 22	3.2	14
50	Novel antiobesity agents: synthesis and pharmacological evaluation of analogues of Rimonabant and of LH21. *Bioorganic and Medicinal Chemistry*, **2013**, 21, 1708-16	3.4	14
49	Psychiatric comorbidity and plasma levels of 2-acyl-glycerols in outpatient treatment alcohol users. Analysis of gender differences. *Revista De Psicologia De La Salud*, **2016**, 29, 83-96	1	14
48	Increased plasma oleoylethanolamide and palmitoleoylethanolamide levels correlate with inflammatory changes in alcohol binge drinkers: the case of HMGB1 in women. *Addiction Biology*, **2018**, 23, 1242-1250	4.6	14
47	Oleoylethanolamide Modulates BDNF-ERK Signaling and Neurogenesis in the Hippocampi of Rats Exposed to Δ9THC and Ethanol Binge Drinking During Adolescence. *Frontiers in Molecular Neuroscience*, **2019**, 12, 96	6.1	13
46	Inflammatory mediators and dual depression: Potential biomarkers in plasma of primary and substance-induced major depression in cocaine and alcohol use disorders. *PLoS ONE*, **2019**, 14, e0213791	3.7	13
45	Both genetic deletion and pharmacological blockade of lysophosphatidic acid LPA1 receptor results in increased alcohol consumption. *Neuropharmacology*, **2016**, 103, 92-103	5.5	13

44	Fatty acid amide hydrolase (FAAH) inactivation confers enhanced sensitivity to nicotine-induced dopamine release in the mouse nucleus accumbens. *Addiction Biology*, **2018**, 23, 723-734	4.6	13
43	Treatment with a novel oleic-acid-dihydroxyamphetamine conjugation ameliorates non-alcoholic fatty liver disease in obese Zucker rats. *DMM Disease Models and Mechanisms*, **2015**, 8, 1213-25	4.1	12
42	CB1 blockade potentiates down-regulation of lipogenic gene expression in perirenal adipose tissue in high carbohydrate diet-induced obesity. *PLoS ONE*, **2014**, 9, e90016	3.7	12
41	Systemic blockade of LPA lysophosphatidic acid receptors by ki16425 modulates the effects of ethanol on the brain and behavior. *Neuropharmacology*, **2018**, 133, 189-201	5.5	11
40	Obesity and the Endocannabinoid System: Is There Still a Future for CB1 Antagonists in Obesity?. *Current Obesity Reports*, **2012**, 1, 216-228	8.4	11
39	Differential hepatoprotective role of the cannabinoid CB and CB receptors in paracetamol-induced liver injury. *British Journal of Pharmacology*, **2020**, 177, 3309-3326	8.6	10
38	Preparation, characterization and in vivo evaluation of nanoemulsions for the controlled delivery of the antiobesity agent N-oleoylethanolamine. *Nanomedicine*, **2014**, 9, 2761-72	5.6	10
37	Hyperplastic obesity and liver steatosis as long-term consequences of suboptimal in vitro culture of mouse embryos. *Biology of Reproduction*, **2014**, 91, 30	3.9	10
36	Adiponectin promoter activator NP-1 reduces body weight and hepatic steatosis in high-fat diet-fed animals. *American Journal of Physiology - Endocrinology and Metabolism*, **2012**, 302, E817-30	6	10
35	Ethanol-induced alterations in endocannabinoids and relevant neurotransmitters in the nucleus accumbens of fatty acid amide hydrolase knockout mice. *Addiction Biology*, **2019**, 24, 1204-1215	4.6	10
34	Differences in the Rates of Drug Polyconsumption and Psychiatric Comorbidity among Patients with Cocaine Use Disorders According to the Mental Health Service. *Journal of Psychoactive Drugs*, **2017**, 49, 306-315	3.6	9
33	Single administration of recombinant IL-6 restores the gene expression of lipogenic enzymes in liver of fasting IL-6-deficient mice. *British Journal of Pharmacology*, **2016**, 173, 1070-84	8.6	9
32	Acetaminophen-Induced Liver Injury Alters the Acyl Ethanolamine-Based Anti-Inflammatory Signaling System in Liver. *Frontiers in Pharmacology*, **2017**, 8, 705	5.6	9
31	Cocaine-induced changes in CXCL1 and inflammatory signaling pathways in the hippocampus: Association with IL1*Neuropharmacology*, **2020**, 162, 107840	5.5	9
30	Effects of Adolescent Intermittent Alcohol Exposure on the Expression of Endocannabinoid Signaling-Related Proteins in the Spleen of Young Adult Rats. *PLoS ONE*, **2016**, 11, e0163752	3.7	8
29	Synthesis and pharmacological evaluation of sulfamide-based analogues of anandamide. *European Journal of Medicinal Chemistry*, **2009**, 44, 4889-95	6.8	7
28	Plasma tryptophan and kynurenine pathway metabolites in abstinent patients with alcohol use disorder and high prevalence of psychiatric comorbidity. *Progress in Neuro-Psychopharmacology and Biological Psychiatry*, **2020**, 102, 109958	5.5	7
27	Serotonin is the main tryptophan metabolite associated with psychiatric comorbidity in abstinent cocaine-addicted patients. *Scientific Reports*, **2019**, 9, 16842	4.9	7

26	Variation in chemokines plasma concentrations in primary care depressed patients associated with Internet-based cognitive-behavioral therapy. *Scientific Reports*, **2020**, 10, 1078	4.9	6
25	The administration of atomoxetine during alcohol deprivation induces a time-limited increase in alcohol consumption after relapse. *International Journal of Neuropsychopharmacology*, **2014**, 17, 1905-10	5.8	6
24	D-Pinitol from Is an Orally Active Natural Inositol That Reduces Pancreas Insulin Secretion and Increases Circulating Ghrelin Levels in Wistar Rats. *Nutrients*, **2020**, 12,	6.7	6
23	Oleoylethanolamide restores alcohol-induced inhibition of neuronal proliferation and microglial activity in striatum. *Neuropharmacology*, **2019**, 146, 184-197	5.5	6
22	PPARγ/CB1 receptor dual ligands as a novel therapy for alcohol use disorder: Evaluation of a novel oleic acid conjugate in preclinical rat models. *Biochemical Pharmacology*, **2018**, 157, 235-243	6	6
21	Computational and biological evaluation of N-octadecyl-NSpropylsulfamide, a selective PPARδ agonist structurally related to N-acylethanolamines. *PLoS ONE*, **2014**, 9, e92195	3.7	5
20	The adiponectin promoter activator NP-1 induces high levels of circulating TNFα and weight loss in obese (fa/fa) Zucker rats. *Scientific Reports*, **2018**, 8, 9858	4.9	5
19	Central administration of galanin N-terminal fragment 1-15 decreases the voluntary alcohol intake in rats. *Addiction Biology*, **2019**, 24, 76-87	4.6	4
18	Abstinent patients with alcohol use disorders show an altered plasma cytokine profile: Identification of both interleukin 6 and interleukin 17A as potential biomarkers of consumption and comorbid liver and pancreatic diseases. *Journal of Psychopharmacology*, **2020**, 34, 1250-1260	4.6	3
17	Influence of gender and education on cocaine users in an outpatient cohort in Spain. *Scientific Reports*, **2021**, 11, 20928	4.9	3
16	Potential association of plasma lysophosphatidic acid (LPA) species with cognitive impairment in abstinent alcohol use disorders outpatients. *Scientific Reports*, **2020**, 10, 17163	4.9	3
15	Plasma concentrations of granulocyte colony-stimulating factor (G-CSF) in patients with substance use disorders and comorbid major depressive disorder. *Scientific Reports*, **2021**, 11, 13629	4.9	3
14	Cannabinoid dependence induces sustained changes in GABA release in the globus pallidus without affecting dopamine release in the dorsal striatum: A dual microdialysis probe study. *Addiction Biology*, **2018**, 23, 1251-1261	4.6	3
13	Acute stress and alcohol exposure during adolescence result in an anxious phenotype in adulthood: Role of altered glutamate/endocannabinoid transmission mechanisms. *Progress in Neuro-Psychopharmacology and Biological Psychiatry*, **2022**, 113, 110460	5.5	2
12	Abrupt cessation of reboxetine along alcohol deprivation results in alcohol intake escalation after reinstatement of drinking. *Addiction Biology*, **2021**, 26, e12957	4.6	2
11	Plasma Concentrations of Lysophosphatidic Acid and Autotaxin in Abstinent Patients with Alcohol Use Disorder and Comorbid Liver Disease. *Biomedicines*, **2021**, 9,	4.8	2
10	Bupropion, a possible antidepressant without negative effects on alcohol relapse. *European Neuropsychopharmacology*, **2019**, 29, 756-765	1.2	1
9	Selective inhibition of monoacylglycerol lipase is associated with passive coping behavior and attenuation of stress-induced dopamine release in the medial prefrontal cortex. *Neurobiology of Stress*, **2021**, 14, 100293	7.6	1

8	Sex-specific behavioral and neurogenic responses to cocaine in mice lacking and blocking dopamine D1 or dopamine D2 receptors. *Journal of Comparative Neurology*, **2021**, 529, 1724-1742	3.4	1
7	Sudden cessation of fluoxetine before alcohol drinking reinstatement alters microglial morphology and TLR4/inflammatory neuroadaptation in the rat brain. *Brain Structure and Function*, **2021**, 226, 2243-2264	4	1
6	Evaluation of neurotrophic factors and education level as predictors of cognitive decline in alcohol use disorder. *Scientific Reports*, **2021**, 11, 15583	4.9	1
5	COX-2 Inhibition Antagonizes Intra-Accumbens 2-Arachidonoylglycerol-Mediated Reduction in Ethanol Self-Administration in Rats. *Alcoholism: Clinical and Experimental Research*, **2020**, 44, 2158-2165	3.7	0
4	Vascular Endothelial Growth Factor as a Potential Biomarker of Neuroinflammation and Frontal Cognitive Impairment in Patients with Alcohol Use Disorder. *Biomedicines*, **2022**, 10, 947	4.8	0
3	Sex Differences in Plasma Lysophosphatidic Acid Species in Patients with Alcohol and Cocaine Use Disorders. *Brain Sciences*, **2022**, 12, 588	3.4	0
2	Attenuation of Oleoylethanolamide-Induced Reduction of Alcohol Consumption in Adult Rats Exposed Intermittently to Alcohol During Adolescence.. *Neuroscience Letters*, **2022**, 136670	3.3	
1	Plasma Amino Acid Concentrations in Patients with Alcohol and/or Cocaine Use Disorders and Their Association with Psychiatric Comorbidity and Sex. *Biomedicines*, **2022**, 10, 1137	4.8	