## Youngmi Kim Pak

List of Publications by Year in descending order

Source: https://exaly.com/author-pdf/1160510/publications.pdf

Version: 2024-02-01

119 papers 4,662 citations

37 h-index

94381

64 g-index

124 all docs

124 docs citations

times ranked

124

7234 citing authors

#	Article	IF	Citations
1	Dynamic changes in mitochondrial biogenesis and antioxidant enzymes during the spontaneous differentiation of human embryonic stem cells. Biochemical and Biophysical Research Communications, 2006, 348, 1472-1478.	1.0	425
2	Oxidized Low Density Lipoprotein Inhibits Interleukin-12 Production in Lipopolysaccharide-activated Mouse Macrophages via Direct Interactions between Peroxisome Proliferator-activated Receptor-Î <sup>3</sup> and Nuclear Factor-Î <sup>9</sup> B. Journal of Biological Chemistry, 2000, 275, 32681-32687.	1.6	320
3	Role of hypothalamic Foxo1 in the regulation of food intake and energy homeostasis. Nature Neuroscience, 2006, 9, 901-906.	7.1	294
4	The Mitogenic and Antiapoptotic Actions of Ghrelin in 3T3-L1 Adipocytes. Molecular Endocrinology, 2004, 18, 2291-2301.	3.7	197
5	Chronic Exposure to the Herbicide, Atrazine, Causes Mitochondrial Dysfunction and Insulin Resistance. PLoS ONE, 2009, 4, e5186.	1.1	193
6	Peripheral Blood Mitochondrial DNA Content Is Related to Insulin Sensitivity in Offspring of Type 2 Diabetic Patients. Diabetes Care, 2001, 24, 865-869.	4.3	124
7	2D NMR and structural model for a mitochondrial signal peptide bound to a micelle. Biochemistry, 1990, 29, 9872-9878.	1.2	102
8	Fetal and Early Postnatal Protein Malnutrition Cause Long-Term Changes in Rat Liver and Muscle Mitochondria. Journal of Nutrition, 2003, 133, 3085-3090.	1.3	99
9	Brain-type creatine kinase has a crucial role in osteoclast-mediated bone resorption. Nature Medicine, 2008, 14, 966-972.	15.2	99
10	C1q Tumor Necrosis Factor $\hat{l}_{\pm}$ -related Protein Isoform 5 Is Increased in Mitochondrial DNA-depleted Myocytes and Activates AMP-activated Protein Kinase. Journal of Biological Chemistry, 2009, 284, 27780-27789.	1.6	93
11	HMG-CoA Reductase Inhibition Reduces Monocyte CC Chemokine Receptor 2 Expression and Monocyte Chemoattractant Protein-1–Mediated Monocyte Recruitment In Vivo. Circulation, 2005, 111, 1439-1447.	1.6	86
12	FCCP depolarizes plasma membrane potential by activating proton and Na+ currents in bovine aortic endothelial cells. Pflugers Archiv European Journal of Physiology, 2002, 443, 344-352.	1.3	83
13	Ethyl Pyruvate Rescues Nigrostriatal Dopaminergic Neurons by Regulating Glial Activation in a Mouse Model of Parkinson's Disease. Journal of Immunology, 2011, 187, 960-969.	0.4	74
14	Umbilical Cord Mesenchymal Stromal Cells Affected by Gestational Diabetes Mellitus Display Premature Aging and Mitochondrial Dysfunction. Stem Cells and Development, 2015, 24, 575-586.	1.1	72
15	Resistance of mitochondrial DNA-deficient cells to TRAIL: role of Bax in TRAIL-induced apoptosis. Oncogene, 2002, 21, 3139-3148.	2.6	71
16	Overexpression of TFAM, NRF-1 and myr-AKT protects the MPP+-induced mitochondrial dysfunctions in neuronal cells. Biochimica Et Biophysica Acta - General Subjects, 2012, 1820, 577-585.	1.1	70
17	Inhibition of inflammation and oxidative stress by <i>Angelica dahuricae radix</i> extract decreases apoptotic cell death and improves functional recovery after spinal cord injury. Journal of Neuroscience Research, 2012, 90, 243-256.	1.3	67
18	In vitro methylation of nuclear respiratory factor-1 binding site suppresses the promoter activity of mitochondrial transcription factor A. Biochemical and Biophysical Research Communications, 2004, 314, 118-122.	1.0	64

#	Article	IF	CITATIONS
19	Shot-gun proteomic analysis of mitochondrial D-loop DNA binding proteins: identification of mitochondrial histones. Molecular BioSystems, 2011, 7, 1523.	2.9	64
20	Oxidation-dependent effects of oxidized LDL: proliferation or cell death. Experimental and Molecular Medicine, 1999, 31, 165-173.	3.2	59
21	Depletion of mitochondrial DNA alters glucose metabolism in SK-Hep1 cells. American Journal of Physiology - Endocrinology and Metabolism, 2001, 280, E1007-E1014.	1.8	52
22	Effects of the root bark of Paeonia suffruticosa on mitochondria-mediated neuroprotection in an MPTP-induced model of Parkinson's disease. Food and Chemical Toxicology, 2014, 65, 293-300.	1.8	52
23	Mitochondrial transcription factor A (mtTFA) and diabetes. Diabetes Research and Clinical Practice, 2001, 54, S3-S9.	1.1	51
24	Meal Time Shift Disturbs Circadian Rhythmicity along with Metabolic and Behavioral Alterations in Mice. PLoS ONE, 2012, 7, e44053.	1.1	50
25	The Orphan Nuclear Receptor Small Heterodimer Partner as a Novel Coregulator of Nuclear Factor-l <sup>o</sup> B in Oxidized Low Density Lipoprotein-treated Macrophage Cell Line RAW 264.7. Journal of Biological Chemistry, 2001, 276, 33736-33740.	1.6	48
26	Oleic acid induces endothelin-1 expression through activation of protein kinase C and NF-κB. Biochemical and Biophysical Research Communications, 2003, 303, 891-895.	1.0	48
27	Negative Cross-Talk between Nur77 and Small Heterodimer Partner and Its Role in Apoptotic Cell Death of Hepatoma Cells. Molecular Endocrinology, 2005, 19, 950-963.	3.7	48
28	Impaired coactivator activity of the Gly482 variant of peroxisome proliferator-activated receptor $\hat{l}^3$ coactivator- $1\hat{l}\pm$ (PGC- $1\hat{l}\pm$ ) on mitochondrial transcription factor A (Tfam) promoter. Biochemical and Biophysical Research Communications, 2006, 344, 708-712.	1.0	48
29	Serum aryl hydrocarbon receptor ligand activity is associated with insulin resistance and resulting type 2 diabetes. Acta Diabetologica, 2015, 52, 489-495.	1.2	48
30	Ethanol extract of Bupleurum falcatum and saikosaponins inhibit neuroinflammation via inhibition of NF-κB. Journal of Ethnopharmacology, 2015, 174, 37-44.	2.0	48
31	Mitochondria-Based Model for Fetal Origin of Adult Disease and Insulin Resistance. Annals of the New York Academy of Sciences, 2005, 1042, 1-18.	1.8	46
32	Perfluorooctanoic acid induces oxidative damage and mitochondrial dysfunction in pancreatic $\hat{l}^2$ -cells. Molecular Medicine Reports, 2017, 15, 3871-3878.	1.1	46
33	Synthesis and PPARGAMMA. Ligand-Binding Activity of the New Series of 2'-Hydroxychalcone and Thiazolidinedione Derivatives. Chemical and Pharmaceutical Bulletin, 2006, 54, 368-371.	0.6	44
34	End-organ resistance to growth hormone and IGF-I in epiphyseal chondrocytes of rats with chronic renal failure. Kidney International, 1996, 50, 400-406.	2.6	43
35	Novel cellâ€based assay reveals associations of circulating serum AhRâ€ligands with metabolic syndrome and mitochondrial dysfunction. BioFactors, 2013, 39, 494-504.	2.6	41
36	Cell-penetrating artificial mitochondria-targeting peptide-conjugated metallothionein 1A alleviates mitochondrial damage in Parkinson's disease models. Experimental and Molecular Medicine, 2018, 50, 1-13.	3.2	41

3

#	Article	IF	CITATIONS
37	Uppsala Consensus Statement on Environmental Contaminants and the Global Obesity Epidemic. Environmental Health Perspectives, 2016, 124, A81-3.	2.8	39
38	Role of endocytosis in the transactivation of nuclear factor-l®B by oxidized low-density lipoprotein. Biochemical Journal, 2000, 350, 829-837.	1.7	37
39	Characterization of the 5′-flanking region of the rat gene for mitochondrial transcription factor A (Tfam). Biochimica Et Biophysica Acta Gene Regulatory Mechanisms, 2002, 1574, 200-204.	2.4	36
40	Circadian regulation of low density lipoprotein receptor promoter activity by CLOCK/BMAL1, Hes1 and Hes6. Experimental and Molecular Medicine, 2012, 44, 642.	3.2	35
41	Endoplasmic Reticulum Stress Impairs Insulin Signaling through Mitochondrial Damage in SH-SY5Y Cells. NeuroSignals, 2012, 20, 265-280.	0.5	35
42	Cyclophilin A regulates JNK/p38-MAPK signaling through its physical interaction with ASK1. Biochemical and Biophysical Research Communications, 2015, 464, 112-117.	1.0	35
43	Cellular aging of mitochondrial DNA-depleted cells. Biochemical and Biophysical Research Communications, 2004, 325, 1399-1405.	1.0	33
44	DNA delivery to the mitochondria sites using mitochondrial leader peptide conjugated polyethylenimine. Journal of Drug Targeting, 2007, 15, 115-122.	2.1	33
45	The role of mitochondrial DNA in the development of type 2 diabetes caused by fetal malnutrition. Journal of Nutritional Biochemistry, 2005, 16, 195-204.	1.9	32
46	The angiopoietin–tie2 system in coronary artery endothelium prevents oxidized low-density lipoprotein-induced apoptosis. Cardiovascular Research, 2001, 49, 872-881.	1.8	30
47	Roles of ERK and p38 mitogen-activated protein kinases in phorbol ester-induced NF-κB activation and COX-2 expression in human breast epithelial cells. Chemico-Biological Interactions, 2008, 171, 133-141.	1.7	30
48	Mitochondrial dysfunction enhances the migration of vascular smooth muscles cells via suppression of Akt phosphorylation. Biochimica Et Biophysica Acta - General Subjects, 2010, 1800, 275-281.	1.1	30
49	Insulin-dependent suppression of cholesterol $7\hat{l}_{\pm}$ -hydroxlase is a possible link between glucose and cholesterol metabolisms. Experimental and Molecular Medicine, 2011, 43, 571.	3.2	30
50	Characterization of mitochondria isolated from normal and ischemic hearts in rats utilizing atomic force microscopy. Micron, 2011, 42, 299-304.	1.1	28
51	Serum arylhydrocarbon receptor transactivating activity is elevated in type 2 diabetic patients with diabetic nephropathy. Journal of Diabetes Investigation, 2013, 4, 483-491.	1.1	25
52	Protective effects of a herbal extract combination of Bupleurum falcatum, Paeonia suffruticosa, and Angelica dahurica against MPTP-induced neurotoxicity via regulation of nuclear receptor-related 1 protein. Neuroscience, 2017, 340, 166-175.	1,1	24
53	A microfabricated reservoir-type oxygen sensor for measuring the real-time cellular oxygen consumption rate at various conditions. Sensors and Actuators B: Chemical, 2010, 147, 263-269.	4.0	23
54	Analysis of Proteome Bound to D-Loop Region of Mitochondrial DNA by DNA-Linked Affinity Chromatography and Reverse-Phase Liquid Chromatography/Tandem Mass Spectrometry. Annals of the New York Academy of Sciences, 2005, 1042, 88-100.	1.8	22

#	Article	IF	Citations
55	Regulation of Insulin Secretion and β-Cell Mass by Activating Signal Cointegrator 2. Molecular and Cellular Biology, 2006, 26, 4553-4563.	1.1	22
56	Correlation of plasma homocysteine and mitochondrial DNA content in peripheral blood in healthy women. Atherosclerosis, 2001, 158, 399-405.	0.4	21
57	Inhibition of lipopolysaccharide-induced inducible nitric oxide synthase expression by a novel compound, mercaptopyrazine, through suppression of nuclear factor-kappaB binding to DNA. Biochemical Pharmacology, 2004, 68, 719-728.	2.0	20
58	Purification and Characterization of Beef and Pig Liver Aldehyde Dehydrogenases. Alcoholism: Clinical and Experimental Research, 1988, 12, 713-719.	1.4	19
59	miR-24-mediated knockdown of H2AX damages mitochondria and the insulin signaling pathway. Experimental and Molecular Medicine, 2017, 49, e313-e313.	3.2	19
60	Qi-activating quercetin alleviates mitochondrial dysfunction and neuroinflammation in vivo and in vitro. Archives of Pharmacal Research, 2020, 43, 553-566.	2.7	19
61	Identification of Retinoic Acid Receptor Element in Human Cholesteryl Ester Transfer Protein Gene. Biochemical and Biophysical Research Communications, 1999, 258, 411-415.	1.0	18
62	S-Adenosyl-l-Methionine Increases Skeletal Muscle Mitochondrial DNA Density and Whole Body Insulin Sensitivity in OLETF Rats. Journal of Nutrition, 2007, 137, 339-344.	1.3	18
63	Alcohol exposure induces depression-like behavior by decreasing hippocampal neuronal proliferation through inhibition of the BDNF-ERK pathway in gerbils. Animal Cells and Systems, 2012, 16, 190-197.	0.8	18
64	Negative transcriptional regulation of mitochondrial transcription factor A (TFAM) by nuclear TFAM. Biochemical and Biophysical Research Communications, 2014, 450, 166-171.	1.0	18
65	Perfluorooctanoic acid induces mitochondrial dysfunction in MC3T3-E1 osteoblast cells. Journal of Environmental Science and Health - Part A Toxic/Hazardous Substances and Environmental Engineering, 2017, 52, 281-289.	0.9	18
66	Role of endocytosis in the transactivation of nuclear factor-κB by oxidized low-density lipoprotein. Biochemical Journal, 2000, 350, 829.	1.7	16
67	Induction of hepatic inducible nitric oxide synthase by cholesterol in vivo and in vitro. Experimental and Molecular Medicine, 2002, 34, 137-144.	3.2	16
68	Blockade of TGF-Î <sup>2</sup> by catheter-based local intravascular gene delivery does not alter the in-stent neointimal response, but enhances inflammation in pig coronary arteries. International Journal of Cardiology, 2010, 145, 468-475.	0.8	16
69	Tetrabromobisphenol A induces cellular damages in pancreatic $\hat{l}^2$ -cellsin vitro. Journal of Environmental Science and Health - Part A Toxic/Hazardous Substances and Environmental Engineering, 2017, 52, 624-631.	0.9	16
70	Triple herbal extract DA-9805 exerts a neuroprotective effect via amelioration of mitochondrial damage in experimental models of Parkinsonâ $\in$ <sup>M</sup> s disease. Scientific Reports, 2018, 8, 15953.	1.6	16
71	The Role of Glutamate Release on Voltage-Dependent Anion Channels (VDAC)-Mediated Apoptosis in an Eleven Vessel Occlusion Model in Rats. PLoS ONE, 2010, 5, e15192.	1.1	15
72	Immunosensor Based on the ZnO Nanorod Networks for the Detection of H1N1 Swine Influenza Virus. Journal of Nanoscience and Nanotechnology, 2012, 12, 5173-5177.	0.9	15

#	Article	IF	Citations
73	Relationships between serum-induced AhR bioactivity or mitochondrial inhibition and circulating polychlorinated biphenyls (PCBs). Scientific Reports, 2017, 7, 9383.	1.6	15
74	Glabridin attenuates antiadipogenic activity induced by 2,3,7,8â€tetrachlorodibenzoâ€pâ€dioxin in murine 3T3â€L1 adipocytes. Journal of Applied Toxicology, 2018, 38, 1426-1436.	1.4	15
75	Development of multi-well-based electrochemical dissolved oxygen sensor array. Sensors and Actuators B: Chemical, 2020, 306, 127465.	4.0	15
76	Fitting Improvement Using a New Electrical Circuit Model for the Electrode-Electrolyte Interface., 2007,,.		14
77	Network Clustering Revealed the Systemic Alterations of Mitochondrial Protein Expression. PLoS Computational Biology, 2011, 7, e1002093.	1.5	14
78	Regulation of Mitochondrial Transcription Factor A Expression by High Glucose. Annals of the New York Academy of Sciences, 2004, 1011, 69-77.	1.8	13
79	A reservoir-type oxygen sensor with 2 $\tilde{A}$ — 3 array for measuring cellular respiration levels. Sensors and Actuators B: Chemical, 2013, 176, 913-920.	4.0	13
80	Catheter-based adenovirus-mediated local intravascular gene delivery of a soluble TGF-β type II receptor using an Infiltrator in porcine coronary arteries: efficacy and complications. Experimental and Molecular Medicine, 2002, 34, 299-307.	3.2	12
81	Design and synthesis of novel antidiabetic agents. Archives of Pharmacal Research, 2005, 28, 142-150.	2.7	12
82	Exposure to tetrabromobisphenol A induces cellular dysfunction in osteoblastic MC3T3-E1 cells. Journal of Environmental Science and Health - Part A Toxic/Hazardous Substances and Environmental Engineering, 2017, 52, 561-570.	0.9	12
83	It is time to integrate sex as a variable in preclinical and clinical studies. Experimental and Molecular Medicine, 2018, 50, 1-2.	3.2	12
84	Multiple pathways of alveolar macrophage death contribute to pulmonary inflammation induced by silica nanoparticles. Nanotoxicology, 2021, 15, 1087-1101.	1.6	12
85	Sterol-independent repression of low density lipoprotein receptor promoter by peroxisome proliferator activated receptor $\hat{I}^3$ coactivator- $1\hat{I}^{\pm}$ (PGC- $1\hat{I}^{\pm}$ ). Experimental and Molecular Medicine, 2009, 41, 406.	3.2	11
86	Quantitative and qualitative analysis of heart mitochondria for evaluating the degree of myocardial injury utilizing atomic force microscopy. Micron, 2013, 44, 167-173.	1.1	11
87	Protective effects of DA-9805 on dopaminergic neurons against 6-hydroxydopamine-induced neurotoxicity in the models of Parkinson's disease. Biomedicine and Pharmacotherapy, 2019, 117, 109184.	2.5	11
88	Alpha-naphthoflavone induces apoptosis through endoplasmic reticulum stress via c-Src-, ROS-, MAPKs-, and arylhydrocarbon receptor-dependent pathways in HT22 hippocampal neuronal cells. NeuroToxicology, 2019, 71, 39-51.	1.4	11
89	Identification of Protein-Receptor Components Required for the Import of Prealdehyde Dehydrogenase into Rat Liver Mitochondria. Archives of Biochemistry and Biophysics, 1995, 323, 54-62.	1.4	10
90	Inhibition of low density lipoprotein receptor expression by long-term exposure to phorbol ester via p38 mitogen-activated protein kinase pathway. Journal of Cellular Biochemistry, 2005, 96, 786-794.	1.2	10

#	Article	IF	CITATIONS
91	Aptamer-Based Immunosensor on the ZnO Nanorods Networks. Journal of Nanoscience and Nanotechnology, 2012, 12, 5547-5551.	0.9	10
92	Actein alleviates 2,3,7,8â€tetrachlorodibenzoâ€pâ€dioxinâ€mediated cellular dysfunction in osteoblastic MC3T3â€E1 cells. Environmental Toxicology, 2017, 32, 2455-2470.	2.1	9
93	Serum biomarkers from cell-based assays for AhRL and MIS strongly predicted the future development of diabetes in a large community-based prospective study in Korea. Scientific Reports, 2020, 10, 6339.	1.6	9
94	Causal effects of synthetic chemicals on mitochondrial deficits and diabetes pandemic. Archives of Pharmacal Research, 2013, 36, 178-188.	2.7	8
95	Cerebral ischemia-induced mitochondrial changes in a global ischemic rat model by AFM. Biomedicine and Pharmacotherapy, 2015, 71, 15-20.	2.5	8
96	Effect of Dialysis on Aryl Hydrocarbon Receptor Transactivating Activity in Patients with Chronic Kidney Disease. Yonsei Medical Journal, 2020, 61, 56.	0.9	8
97	Mitochondria: The Secret Chamber of Therapeutic Targets for Age-Associated Degenerative Diseases. Biomolecules and Therapeutics, 2010, 18, 235-245.	1.1	8
98	27-Deoxyactein prevents 2,3,7,8-tetrachlorodibenzo-p-dioxin-induced cellular damage in MC3T3-E1 osteoblastic cells. Journal of Environmental Science and Health - Part A Toxic/Hazardous Substances and Environmental Engineering, 2018, 53, 561-570.	0.9	7
99	A Small Molecule, 4-Phenylbutyric Acid, Suppresses HCV Replication via Epigenetically Induced Hepatic Hepcidin. International Journal of Molecular Sciences, 2020, 21, 5516.	1.8	7
100	Microfabirated Clark-type Sensor for Measuing Dissolved Oxygen., 2007,,.		6
101	Organelle stress-induced activating transcription factor-3 downregulates low-density lipoprotein receptor expression in Sk-Hep1 human liver cells. Biological Chemistry, 2011, 392, 377-85.	1.2	6
102	DA-9805 protects dopaminergic neurons from endoplasmic reticulum stress and inflammation. Biomedicine and Pharmacotherapy, 2022, 145, 112389.	2.5	6
103	Gene expression in uremic left ventricular hypertrophy: effects of hypertension and anemia. Experimental and Molecular Medicine, 2004, 36, 251-258.	3.2	5
104	Growth impairment of primary chondrocyte cells by serum of rats with chronic renal failure. Experimental and Molecular Medicine, 2004, 36, 243-250.	3.2	5
105	Xanthohumol ameliorates 2,3,7,8â€tetrachlorodibenzoâ€pâ€dioxin–induced cellular toxicity in cultured MC3T3â€E1 osteoblastic cells. Journal of Applied Toxicology, 2018, 38, 1036-1046.	1.4	5
106	Association of aryl hydrocarbon receptor transactivating activity, a potential biomarker for persistent organic pollutants, with the risk of gestational diabetes mellitus. Scientific Reports, 2021, 11, 3185.	1.6	5
107	Regulation of Mitochondrial Transcription Factor A Expression by High Glucose., 2004, 1011, 69-77.		5
108	Effects of Alcohol on the Import of Aldehyde Dehydrogenase Precursor into Rat Liver Mitochondria. Alcoholism: Clinical and Experimental Research, 1990, 14, 600-604.	1.4	4

#	ARTICLE	IF	CITATIONS
109	Reduced Mitochondrial Properties in Putative Progenitor/Stem Cells of Human Keratinocytes. Annals of Dermatology, 2009, 21, 364.	0.3	4
110	Dual-mode enhancement of metallothionein protein with cell transduction and retention peptide fusion. Journal of Controlled Release, 2013, 171, 193-200.	4.8	4
111	Low Molecular Weight Polyethylenimine-Mitochondrial Leader Peptide Conjugate for DNA Delivery to Mitochondria. Bulletin of the Korean Chemical Society, 2006, 27, 1335-1340.	1.0	4
112	An Interactive Online App for Predicting Diabetes via Machine Learning from Environment-Polluting Chemical Exposure Data. International Journal of Environmental Research and Public Health, 2022, 19, 5800.	1.2	3
113	DA-9805, a Herbal Mixture, Restores Motor Manifestations in 6-Hydroxydopamine-induced Parkinson's Disease Mouse Model by Regulating Striatal Dopamine and Acetylcholine Levels. Frontiers in Pharmacology, 0, 13, .	1.6	3
114	2 × 3 array oxygen sensor for measuring cellular respiration level. , 2009, , .		2
115	Hypothermia alleviates hypoxic ischemia-induced dopamine dysfunction and memory impairment in rats. Animal Cells and Systems, 2011, 15, 279-286.	0.8	2
116	Preparation and Application of Graphene–Poly (diallyldimethylammoniumchloride)–Iron Oxide Nanoparticles Buckypaper for Hydrogen Peroxide Detection. Journal of Nanoscience and Nanotechnology, 2013, 13, 7349-7357.	0.9	2
117	High Serum-Induced AhRL Is Associated with Prevalent Metabolic Syndrome and Future Impairment of Glucose Tolerance in the Elderly. Endocrinology and Metabolism, 2021, 36, 436-446.	1.3	2
118	Clinical Value of Serum Mitochondria-Inhibiting Substances in Assessing Renal Hazards: A Community-Based Prospective Study in Korea. Endocrinology and Metabolism, 2021, , .	1.3	1
119	Obesity and diabetes: roles of circulating environmental pollutants and its mitochondria inhibiting activity in pathogenesis. Diabetes Research and Clinical Practice, 2016, 120, S10-S11.	1.1	O