Robert B Gilchrist

List of Publications by Year
in descending order

131	9,805	55	94
papers	citations	h-index	g-index
		28242	39638

133	133	133	5402
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Oocyte-secreted factors: regulators of cumulus cell function and oocyte quality. Human Reproduction Update, 2008, 14, 159-177.	5.2	796
2	Oocyteâ€"somatic cell interactions during follicle development in mammals. Animal Reproduction Science, 2004, 82-83, 431-446.	0.5	415
3	The pivotal role of glucose metabolism in determining oocyte developmental competence. Reproduction, 2010, 139, 685-695.	1.1	381
4	Oocyte-secreted factors enhance oocyte developmental competence. Developmental Biology, 2006, 296, 514-521.	0.9	303
5	Oocytes prevent cumulus cell apoptosis by maintaining a morphogenic paracrine gradient of bone morphogenetic proteins. Journal of Cell Science, 2005, 118, 5257-5268.	1.2	296
6	Oocyte maturation: Emerging concepts and technologies to improve developmental potential in vitro. Theriogenology, 2007, 67, 6-15.	0.9	284
7	Simulated physiological oocyte maturation (SPOM): a novel in vitro maturation system that substantially improves embryo yield and pregnancy outcomes. Human Reproduction, 2010, 25, 2999-3011.	0.4	240
8	The epidermal growth factor network: role in oocyte growth, maturation and developmental competence. Human Reproduction Update, 2018, 24, 1-14.	5.2	197
9	Molecular basis of oocyte-paracrine signalling that promotes granulosa cell proliferation. Journal of Cell Science, 2006, 119, 3811-3821.	1.2	193
10	Recent insights into oocyte - follicle cell interactions provide opportunities for the development of new approaches to in vitro maturation. Reproduction, Fertility and Development, 2011, 23, 23.	0.1	191
11	NAD+ Repletion Rescues Female Fertility during Reproductive Aging. Cell Reports, 2020, 30, 1670-1681.e7.	2.9	169
12	Oocyte-Secreted Factor(s) Determine Functional Differences Between Bovine Mural Granulosa Cells and Cumulus Cells1. Biology of Reproduction, 2000, 63, 839-845.	1.2	165
13	Bidirectional communication between cumulus cells and the oocyte: Old hands and new players?. Theriogenology, 2016, 86, 62-68.	0.9	163
14	Bovine Cumulus Cell-Oocyte Gap Junctional Communication During In Vitro Maturation in Response to Manipulation of Cell-Specific Cyclic Adenosine 3â€²,5â€²-Monophosophate Levels1. Biology of Reproduction, 2004, 70, 548-556.	1.2	162
15	Neuroendocrine androgen action is a key extraovarian mediator in the development of polycystic ovary syndrome. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E3334-E3343.	3.3	158
16	TGF-Î² Mediates Proinflammatory Seminal Fluid Signaling in Human Cervical Epithelial Cells. Journal of Immunology, 2012, 189, 1024-1035.	0.4	157
17	Anti-MÃ¼llerian hormone as a predictor of IVF outcome. Reproductive BioMedicine Online, 2007, 14, 602-610.	1.1	155
18	Oocyte maturation and quality: role of cyclic nucleotides. Reproduction, 2016, 152, R143-R157.	1.1	152

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19	The Promise of in Vitro Maturation in Assisted Reproduction and Fertility Preservation. Seminars in Reproductive Medicine, 2011, 29, 024-037.	0.5	141
20	Oocyte-Secreted Factor Activation of SMAD 2/3 Signaling Enables Initiation of Mouse Cumulus Cell Expansion1. Biology of Reproduction, 2007, 76, 848-857.	1.2	134
21	Exogenous growth differentiation factor 9 in oocyte maturation media enhances subsequent embryo development and fetal viability in mice. Human Reproduction, 2007, 23, 67-73.	0.4	132
22	Metabolic co-dependence of the oocyte and cumulus cells: essential role in determining oocyte developmental competence. Human Reproduction Update, 2021, 27, 27-47.	5.2	131
23	Cumulin, an Oocyte-secreted Heterodimer of the Transforming Growth Factor-Î² Family, Is a Potent Activator of Granulosa Cells and Improves Oocyte Quality. Journal of Biological Chemistry, 2015, 290, 24007-24020.	1.6	130
24	Differential Effects of Specific Phosphodiesterase Isoenzyme Inhibitors on Bovine Oocyte Meiotic Maturation. Developmental Biology, 2002, 244, 215-225.	0.9	122
25	Expression of Leptin and Its Receptor in the Murine Ovary: Possible Role in the Regulation of Oocyte Maturation1. Biology of Reproduction, 2002, 66, 1548-1554.	1.2	117
26	Role of Oocyte-Secreted Growth Differentiation Factor 9 in the Regulation of Mouse Cumulus Expansion. Endocrinology, 2005, 146, 2798-2806.	1.4	115
27	Effect of Specific Phosphodiesterase Isoenzyme Inhibitors During In Vitro Maturation of Bovine Oocytes on Meiotic and Developmental Capacity1. Biology of Reproduction, 2004, 71, 1142-1149.	1.2	113
28	The safety and efficacy of controlled ovarian hyperstimulation for fertility preservation in women with early breast cancer: a systematic review. Human Reproduction, 2017, 32, 1033-1045.	0.4	110
29	Androgens Augment the Mitogenic Effects of Oocyte-Secreted Factors and Growth Differentiation Factor 9 on Porcine Granulosa Cells1. Biology of Reproduction, 2005, 73, 825-832.	1.2	109
30	Influence of oocyte-secreted factors and culture duration on the metabolic activity of bovine cumulus cell complexes. Reproduction, 2003, 126, 27-34.	1.1	107
31	Cumulus expansion and glucose utilisation by bovine cumulusâ€“oocyte complexes during in vitro maturation: the influence of glucosamine and follicle-stimulating hormone. Reproduction, 2004, 128, 313-319.	1.1	101
32	New Perspectives on the Pathogenesis of PCOS: Neuroendocrine Origins. Trends in Endocrinology and Metabolism, 2018, 29, 841-852.	3.1	101
33	Regulation of Gap Junctions in Porcine Cumulus-Oocyte Complexes: Contributions of Granulosa Cell Contact, Gonadotropins, and Lipid Rafts. Molecular Endocrinology, 2009, 23, 700-710.	3.7	87
34	Perspectives on the development and future of oocyte IVM in clinical practice. Journal of Assisted Reproduction and Genetics, 2021, 38, 1265-1280.	1.2	82
35	The definition of IVM is clearâ€"variations need defining. Human Reproduction, 2016, 31, 2411-2415.	0.4	81
36	Bone morphogenetic protein 15 and fibroblast growth factor 10 enhance cumulus expansion, glucose uptake, and expression of genes in the ovulatory cascade during in vitro maturation of bovine cumulusâ€“oocyte complexes. Reproduction, 2013, 146, 27-35.	1.1	78

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37	Extending prematuration with cAMP modulators enhances the cumulus contribution to oocyte antioxidant defence and oocyte quality via gap junctions. Human Reproduction, 2016, 31, 810-821.	0.4	78
38	Immunoneutralization of Growth Differentiation Factor 9 Reveals It Partially Accounts for Mouse Oocyte Mitogenic Activity1. Biology of Reproduction, 2004, 71, 732-739.	1.2	77
39	Characterization of Novel Phosphodiesterases in the Bovine Ovarian Follicle1. Biology of Reproduction, 2009, 81, 415-425.	1.2	74
40	Growth Differentiation Factor 9 Is a Germ Cell Regulator of Sertoli Cell Function. Endocrinology, 2009, 150, 2481-2490.	1.4	74
41	Regulation of sheep oocyte maturation using cAMP modulators. Theriogenology, 2013, 79, 142-148.	0.9	74
42	Heparin and cAMP modulators interact during pre-in vitro maturation to affect mouse and human oocyte meiosis and developmental competence. Human Reproduction, 2013, 28, 1536-1545.	0.4	73
43	Signalling pathways mediating specific synergistic interactions between GDF9 and BMP15. Molecular Human Reproduction, 2012, 18, 121-128.	1.3	72
44	Biphasic in vitro maturation (CAPA-IVM) specifically improves the developmental capacity of oocytes from small antral follicles. Journal of Assisted Reproduction and Genetics, 2019, 36, 2135-2144.	1.2	72
45	Mouse Oocyte Mitogenic Activity Is Developmentally Coordinated throughout Folliculogenesis and Meiotic Maturation. Developmental Biology, 2001, 240, 289-298.	0.9	71
46	Increased gonadotrophin stimulation does not improve IVF outcomes in patients with predicted poor ovarian reserve. Journal of Assisted Reproduction and Genetics, 2008, 25, 515-521.	1.2	70
47	Maturation, Fertilization, and Development of Marmoset Monkey Oocytes in Vitro. Biology of Reproduction, 1997, 56, 238-246.	1.2	69
48	Interactions Between Androgen and Growth Factors in Granulosa Cell Subtypes of Porcine Antral Follicles1. Biology of Reproduction, 2004, 71, 45-52.	1.2	68
49	Live births after oocyte in vitro maturation with a prematuration step in women with polycystic ovary syndrome. Journal of Assisted Reproduction and Genetics, 2020, 37, 347-357.	1.2	66
50	Prematuration with Cyclic Adenosine Monophosphate Modulators Alters Cumulus Cell and Oocyte Metabolism and Enhances Developmental Competence of In Vitro-Matured Mouse Oocytes1. Biology of Reproduction, 2014, 91, 47.	1.2	64
51	Amphiregulin co-operates with bone morphogenetic protein 15 to increase bovine oocyte developmental competence: effects on gap junction-mediated metabolite supply. Molecular Human Reproduction, 2014, 20, 499-513.	1.3	62
52	In-vitro maturation of oocytes versus conventional IVF in women with infertility and a high antral follicle count: a randomized non-inferiority controlled trial. Human Reproduction, 2020, 35, 2537-2547.	0.4	62
53	Growth differentiation factor 9 signaling requires ERK1/2 activity in mouse granulosa and cumulus cells. Journal of Cell Science, 2010, 123, 3166-3176.	1.2	61
54	Preâ€maturation with cAMP modulators in conjunction with EGFâ€like peptides during in vitro maturation enhances mouse oocyte developmental competence. Molecular Reproduction and Development, 2014, 81, 422-435.	1.0	61

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55	Promotion of EGF receptor signaling improves the quality of low developmental competence oocytes. Developmental Biology, 2015, 403, 139-149.	0.9	58
56	Adenosine 5â€²-Monophosphate Kinase-Activated Protein Kinase (PRKA) Activators Delay Meiotic Resumption in Porcine Oocytes1. Biology of Reproduction, 2007, 76, 589-597.	1.2	56
57	Mode of oocyte maturation affects EGF-like peptide function and oocyte competence. Molecular Human Reproduction, 2013, 19, 500-509.	1.3	52
58	Comparison of oocyte factors and transforming growth factor-Î² in the regulation of DNA synthesis in bovine granulosa cells. Molecular and Cellular Endocrinology, 2003, 201, 87-95.	1.6	49
59	Adenoviral Gene Transfer Allows Smad-Responsive Gene Promoter Analyses and Delineation of Type I Receptor Usage of Transforming Growth Factor-Î² Family Ligands in Cultured Human Granulosa Luteal Cells. Journal of Clinical Endocrinology and Metabolism, 2005, 90, 271-278.	1.8	48
60	Heparan Sulfate Proteoglycans Regulate Responses to Oocyte Paracrine Signals in Ovarian Follicle Morphogenesis. Endocrinology, 2012, 153, 4544-4555.	1.4	48
61	Effect of hexoses and gonadotrophin supplementation on bovine oocyte nuclear maturation during in vitro maturation in a synthetic follicle fluid medium. Reproduction, Fertility and Development, 2005, 17, 407.	0.1	47
62	Disruption of Bidirectional Oocyte-Cumulus Paracrine Signaling During In Vitro Maturation Reduces Subsequent Mouse Oocyte Developmental Competence1. Biology of Reproduction, 2009, 80, 1072-1080.	1.2	47
63	Fibroblast growth factor 17 and bone morphogenetic protein 15 enhance cumulus expansion and improve quality of inÂvitro â€"produced embryos in cattle. Theriogenology, 2015, 84, 390-398.	0.9	47
64	Changes in Follicle-Stimulating Hormone and Follicle Populations During the Ovarian Cycle of the Common Marmoset1. Biology of Reproduction, 2001, 64, 127-135.	1.2	46
65	Bone Morphogenetic Protein 15 in the Pro-Mature Complex Form Enhances Bovine Oocyte Developmental Competence. PLoS ONE, 2014, 9, e103563.	1.1	45
66	Quantifying the cellular NAD+ metabolome using a tandem liquid chromatography mass spectrometry approach. Metabolomics, 2018, 14, 15.	1.4	45
67	Oocyte Induction of EGF Responsiveness in Somatic Cells Is Associated With the Acquisition of Porcine Oocyte Developmental Competence. Endocrinology, 2015, 156, 2299-2312.	1.4	44
68	Defining the impact of dietary macronutrient balance on PCOS traits. Nature Communications, 2020, 11, 5262.	5.8	44
69	Glucosamine Supplementation During In Vitro Maturation Inhibits Subsequent Embryo Development: Possible Role of the Hexosamine Pathway as a Regulator of Developmental Competence1. Biology of Reproduction, 2006, 74, 881-888.	1.2	43
70	Failure to launch: aberrant cumulus gene expression during oocyte in vitro maturation. Reproduction, 2017, 153, R109-R120.	1.1	42
71	Androgen signaling pathways driving reproductive and metabolic phenotypes in a PCOS mouse model. Journal of Endocrinology, 2020, 245, 381-395.	1.2	42
72	Temporal effects of exogenous oocyte-secreted factors on bovine oocyte developmental competence during IVM. Reproduction, Fertility and Development, 2011, 23, 576.	0.1	41

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73	Activation of Latent Human GDF9 by a Single Residue Change (Gly391Arg) in the Mature Domain. Endocrinology, 2012, 153, 1301-1310.	1.4	40
74	Redox and antiâ€oxidant state within cattle oocytes following in vitro maturation with bone morphogenetic protein 15 and follicle stimulating hormone. Molecular Reproduction and Development, 2015, 82, 281-294.	1.0	40
75	Effect of Epidermal Growth Factor-Like Peptides on the Metabolism of In Vitro- Matured Mouse Oocytes and Cumulus Cells1. Biology of Reproduction, 2014, 90, 49.	1.2	39
76	Metabolic Differences in Bovine Cumulus-Oocyte Complexes Matured In Vitro in the Presence or Absence of Follicle-Stimulating Hormone and Bone Morphogenetic Protein 151. Biology of Reproduction, 2012, 87, 87.	1.2	38
77	Chromosome constitution of human embryos generated after in vitro maturation including 3-isobutyl-1-methylxanthine in the oocyte collection medium. Human Reproduction, 2015, 30, 653-663.	0.4	36
78	Metabolism of the bovine cumulus-oocyte complex and influence on subsequent developmental competence. Reproduction in Domestic Ruminants, 2007, 6, 179-190.	0.1	34
79	Effects of ovarian stimulation, with and without human chorionic gonadotrophin, on oocyte meiotic and developmental competence in the marmoset monkey (Callithrix jacchus). Theriogenology, 2007, 68, 861-872.	0.9	33
80	Differences in the participation of TGFB superfamily signalling pathways mediating porcine and murine cumulus cell expansion. Reproduction, 2011, 142, 647-657.	1.1	33
81	Reevaluation and evolution of the simulated physiological oocyte maturation system. Theriogenology, 2015, 84, 656-657.	0.9	32
82	In-vitro regulation of primordial follicle activation: challenges for fertility preservation strategies. Reproductive BioMedicine Online, 2018, 36, 491-499.	1.1	32
83	A Hyperandrogenic Environment Causes Intrinsic Defects That Are Detrimental to Follicular Dynamics in a PCOS Mouse Model. Endocrinology, 2019, 160, 699-715.	1.4	32
84	Hemoglobin: a Gas Transport Molecule That Is Hormonally Regulated in the Ovarian Follicle in Mice and Humans1. Biology of Reproduction, 2015, 92, 26.	1.2	31
85	BMP15 Mutations Associated With Primary Ovarian Insufficiency Reduce Expression, Activity, or Synergy With GDF9. Journal of Clinical Endocrinology and Metabolism, 2017, 102, 1009-1019.	1.8	31
86	Effect of pre-<i>in vitro</i> maturation with cAMP modulators on the acquisition of oocyte developmental competence in cattle. Journal of Reproduction and Development, 2018, 64, 233-241.	0.5	31
87	Androgen Action in Adipose Tissue and the Brain are Key Mediators in the Development of PCOS Traits in a Mouse Model. Endocrinology, 2020, 161, .	1.4	31
88	Aberrant GDF9 Expression and Activation Are Associated With Common Human Ovarian Disorders. Journal of Clinical Endocrinology and Metabolism, 2014, 99, E615-E624.	1.8	29
89	Signalling pathways involved in the synergistic effects of human growth differentiation factor 9 and bone morphogenetic protein 15. Reproduction, Fertility and Development, 2016, 28, 491.	0.1	28
90	A variant of human growth differentiation factor-9 that improves oocyte developmental competence. Journal of Biological Chemistry, 2020, 295, 7981-7991.	1.6	28

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91	Hyperglycaemic conditions perturb mouse oocyte in vitro developmental competence via beta-O-linked glycosylation of Heat shock protein 90. Human Reproduction, 2014, 29, 1292-1303.	0.4	27
92	Growth differentiation factor 9:bone morphogenetic protein 15 (GDF9:BMP15) synergism and protein heterodimerization. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, E2257.	3.3	23
93	Niclosamide reduces glucagon sensitivity via hepatic PKA inhibition in obese mice: Implications for glucose metabolism improvements in type 2 diabetes. Scientific Reports, 2017, 7, 40159.	1.6	23
94	Oocyte expression, secretion and somatic cell interaction of mouse bone morphogenetic protein 15 during the peri-ovulatory period. Reproduction, Fertility and Development, 2015, 27, 801.	0.1	22
95	Improving Fertility Preservation for Girls and Women by Coupling Oocyte <i>in vitro</i> Maturation with Existing Strategies. Women's Health, 2016, 12, 275-278.	0.7	22
96	Transcriptomic signature of the follicular somatic compartment surrounding an oocyte with high developmental competence. Scientific Reports, 2017, 7, 6815.	1.6	22
97	Capacitation IVM improves cumulus function and oocyte quality in minimally stimulated mice. Journal of Assisted Reproduction and Genetics, 2020, 37, 77-88.	1.2	22
98	Effectiveness and safety of in vitro maturation of oocytes versus in vitro fertilisation in women with high antral follicle count: study protocol for a randomised controlled trial. BMJ Open, 2018, 8, e023413.	0.8	21
99	Participation of the adenosine salvage pathway and cyclic AMP modulation in oocyte energy metabolism. Scientific Reports, 2019, 9, 18395.	1.6	20
100	Serum Concentrations of Oocyte-Secreted Factors BMP15 and GDF9 During IVF and in Women With Reproductive Pathologies. Endocrinology, 2019, 160, 2298-2313.	1.4	19
101	The Place of In Vitro Maturation in Assisted Reproductive Technology. Fertility & Reproduction, 2019, 01, 11-15.	0.0	19
102	Neurokinin 3 Receptor Antagonism Ameliorates Key Metabolic Features in a Hyperandrogenic PCOS Mouse Model. Endocrinology, 2021, 162, .	1.4	19
103	Cumulin and FSH Cooperate to Regulate Inhibin B and Activin B Production by Human Granulosa-Lutein Cells In Vitro. Endocrinology, 2019, 160, 853-862.	1.4	17
104	Extra-ovarian expression and activity of growth differentiation factor 9. Journal of Endocrinology, 2009, 202, 419-430.	1.2	16
105	The effect of periâ€conception hyperglycaemia and the involvement of the hexosamine biosynthesis pathway in mediating oocyte and embryo developmental competence. Molecular Reproduction and Development, 2014, 81, 391-408.	1.0	16
106	Activation of 5â€² Adenosine Monophosphate-Activated Protein Kinase Blocks Cumulus Cell Expansion Through Inhibition of Protein Synthesis During In Vitro Maturation in Swine1. Biology of Reproduction, 2014, 91, 51.	1.2	16
107	Modifications of Human Growth Differentiation Factor 9 to Improve the Generation of Embryos From Low Competence Oocytes. Molecular Endocrinology, 2015, 29, 40-52.	3.7	16
108	Approaches to oocyte meiotic arrest in vitro and impact on oocyte developmental competence. Biology of Reproduction, 2022, 106, 243-252.	1.2	15

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109	Cross-reactivity of anti-human chemokine receptor and anti-TNF family antibodies with common marmoset (Callithrix jacchus) leukocytes. Cellular Immunology, 2005, 236, 115-122.	1.4	14
110	MHC Class II DRB genotyping is highly predictive of in-vitro alloreactivity in the common marmoset. Journal of Immunological Methods, 2006, 314, 153-163.	0.6	14
111	Random Start or Emergency IVF/<i>in vitro</i> Maturation: A New Rapid Approach to Fertility Preservation. Women's Health, 2016, 12, 339-349.	0.7	13
112	A sensitive method for the separation and quantification of low-level adenine nucleotides using porous graphitic carbon-based liquid chromatography and tandem mass spectrometry. Journal of Chromatography B: Analytical Technologies in the Biomedical and Life Sciences, 2017, 1061-1062, 445-451.	1.2	13
113	Pathogenesis of Reproductive and Metabolic PCOS Traits in a Mouse Model. Journal of the Endocrine Society, 2021, 5, bvab060.	0.1	12
114	IVM media are designed specifically to support immature cumulus-oocyte complexes not denuded oocytes that have failed to respond to hyperstimulation. Fertility and Sterility, 2011, 96, e141.	0.5	11
115	Current status and future trends of the clinical practice of human oocyte in vitro maturation. , 2011, , 186-198.		10
116	Non-canonical cyclic AMP SMAD1/5/8 signalling in human granulosa cells. Molecular and Cellular Endocrinology, 2019, 490, 37-46.	1.6	10
117	Are human oocytes from stem cells next?. Nature Biotechnology, 2016, 34, 1247-1248.	9.4	9
118	Prospects of Rescuing Young Eggs for Oncofertility. Trends in Endocrinology and Metabolism, 2020, 31, 708-711.	3.1	9
119	The interplay between PCOS pathology and diet on gut microbiota in a mouse model. Gut Microbes, 2022, 14, .	4.3	9
120	Effect of cumulin and super-GDF9 in standard and biphasic mouse IVM. Journal of Assisted Reproduction and Genetics, 2022, 39, 127-140.	1.2	8
121	Multispectral autofluorescence characteristics of reproductive aging in old and young mouse oocytes. Biogerontology, 2022, 23, 237-249.	2.0	8
122	Somatic Guidance for the Oocyte. Developmental Cell, 2013, 27, 603-605.	3.1	7
123	Pioneering contributions by Robert Edwards to oocyte in vitro maturation (IVM). Molecular Human Reproduction, 2013, 19, 794-798.	1.3	7
124	Follicle Selection in Mammalian Ovaries. , 2019, , 3-21.		7
125	Exploratory analysis of serum concentrations of oocyte biomarkers growth differentiation factor 9 and bone morphogenetic protein 15 in ovulatory women across the menstrual cycle. Fertility and Sterility, 2021, 116, 546-557.	0.5	7
126	Follicular guidance for oocyte developmental competence. Animal Reproduction, 2018, 15, 721-726.	0.4	7

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127	Androgen signaling in adipose tissue, but less likely skeletal muscle, mediates development of metabolic traits in a PCOS mouse model. American Journal of Physiology - Endocrinology and Metabolism, 2022, 323, E145-E158.	1.8	6
128	Improving oocyte maturation in vitro. , 0, , 212-223.		4
129	Unique Deep Radiomic Signature Shows NMN Treatment Reverses Morphology of Oocytes from Aged Mice. Biomedicines, 2022, 10, 1544.	1.4	3
130	In vitro maturation (IVM) versus in vitro fertilization (IVF) in women with high antral follicle count (AFC): a randomized controlled trial (NCT03405701). Fertility and Sterility, 2019, 112, e435-e436.	0.5	2
131	Autoimmune ovarian insufficiency: broadening indications for inÂvitro maturation. Fertility and Sterility, 2020, 114, 757-758.	0.5	1