9. Literaturverzeichnis

Maintenance of meiotic arrest in isolated rat oocytes by the invasive adenylate  
cyclase of *Bordetella pertussis*  
Biol. Reprod. 36, 530-535

ADRAIN, C., MARTIN, S.J. (2001)  
The mitochondrial apoptosome: a killer unleashed by the cytochrome seas  
Trends in Biochem Sci 26; Nr. 6: 390-397

Influence of follicular components on oocyte meiosis in vitro  
Theriogenology 30(3):643-648

ALBERTINI, D.F. (1987)  
Cytoplasmic reorganization during the resumption of meiosis in cultured  
preovulatory rat oocytes  
Dev. Biol. 120:121-131

Origins and manifestations of oocyte maturation competencies  
Reprod. Biomed. Online 6, 410-415

Oocyte-granulosa cell interactions  
in: Essential IVF: Basic Research and Clinical Applications  
Van Blerkom, Gregory  
Kluwer Academic Publishers, 43-58

ALBERTS, B., BRAY, D., JOHNSON, A., LEWIS, J., RAFF, M., ROBERTS, K.,  
WALTER, P. (2001)  
Lehrbuch der Molekularen Zellbiologie  
2. Auflage  
Wiley-VCH Verlag GmbH, Weinheim

ALISCH, A., RÜPING, K., KÖSTER, F., SCHÖPPER, B., BAUM, M., FINAS, D.,  
Die Apoptoseaktivität in Cumuluszellen als ein Indikator der Eizellqualität in  
der Assistierten Reproduktion  
Zentralbl Gynakol 2003;125:452-457

Effect of prolaktin on in vitro maturation of bovine oocytes  

Apoptosis and pyknosis in cumulus cells from bovine cumulus-oocyte  
complexes before and after maturation  
Theriogenology 53(1), 447

Meiotic maturation in cultured bovine oocytes is accompanied by remodeling  
of the cumulus cell cytoskeleton  
Aspects of follicle and oocyte stage that affect in vitro maturation and
development of bovine oocytes
Theriogenology 45:943-956

Embryo development, oocyte morphology, and kinetics of meiotic maturation
in bovine oocytes exposed to 6-dimethylaminopurine prior to in vitro
maturation
Mol. Reprod. Dev. 50, 334-344

Factors affecting successful in vitro fertilization of bovine follicular oocytes
Biol. Reprod. 28:717-25

Epigenetic modifications necessary for normal development are established
during oocyte growth in mice
Biol. Reprod. 62:616-621

Translocation of active mitochondria during hamster perimplantation embryo
development studies by confocal laser scanning microscopy
Dev. Dyn. 205:64-72

Glucose and phosphate toxicity in hamster preimplantation embryos involves
disruption of cellular organization, including distribution of active mitochondria
Mol. Reprod. Dev. 48:227-237

Mitochondrial DNA rearrangements in human oocytes and embryos
Mol. Hum. Reprod. 5(10):927-933

Quantification of human ooplasmic mitochondria

Why do older women have poor implantation rates ? A possible role of the
mitochondria

BAVISTER, B.D. (2000)
Interactions between embryos and the culture milieu
Theriogenology 53:619-626

Mitochondrial distribution and function in oocytes and early embryos
Hum. Reprod. Vol. 15(Suppl. 2):189-198
The ovarian follicle in cow: in vivo growth and in vitro culture

Penetration rate of cumulus-enclosed versus denuded bovine eggs fertilized in vitro
Theriogenology 39:186

In vitro production of bovine blastocysts by in vitro maturation and fertilization of oocytes and subsequent in vitro culture
Theriogenology 33:195

BERGSTROM, C., PRITCHARD J. (1998)
Germline bottlenecks and the evolutionary maintenance of mitochondrial genomes
Genetics 149:2135-2146

The mitochondrial permeability transition
Biofactors 8(3-4):273-81

Developmental competence of HMC(TM) derived bovine cloned embryos obtained from somatic cell nuclear transfer of adult fibroblasts and granulosa cells
J. Reprod. Dev. 51(4):465-75

Gonadal cell apoptosis: hormone-regulated cell demise
Hum. Reprod. Update 2:103-17

BLERKOM, J.V. (1977)
Molecular approaches to the study of oocyte maturation and embryonic development
in: Immunobiology of gametes
Edidin, M., Johnson, M.H.
Cambridge University Press

In vitro production of bovine embryos: development competence is acquired before maturation
Theriogenology 47:1061-1075

Oocyte and follicular morphology as determining characteristics for developmental competence in bovine oocytes
Mol. Reprod. Dev. 41:54-62
Manipulation of follicular development to produce developmentally competent
bovine oocytes
Biol Reprod 66:38-43

Caspase-3 in the rat ovary: localization and possible role in follicular atresia
and luteal regression
Biol Reprod 58:1533-9

BOUSQUET, D., TWAGIRAMUNGU, H., MORIN, N., BRISON, C., CARBONEAU, G.,
DUROCHER, J. (1999)
In vitro production in the cow: an effective alternative to the conventional
embryo production approach
Theriogenology 51:59-70

Caspase activation
Biochem. Soc. Symp. 70:233

BOSSY-WETZEL, E., GREEN, D.R. (1999)
Apoptosis: Checkpoint at the mitochondrial frontier
Mutation Res 434:243-251

Analysis of factors involved in the in vitro production of bovine embryos
Theriogenology 39:43-64

BRACKETT, B.G., BOUSQUET, D., BOICE, M.L., DONAWICK, W.J., EVANS, J.F.,
Normal development following in vitro fertilisation in the cow
Biol. Reprod. 27:147-158

(1998)
Mitochondrial DNA depletion in human oocytes and embryos
Mol Hum Reprod 4(9):887-892

Role of adenosine triphosphat, active mitochondria and microtubules in the
acquisition of developmental competence of parthenogenetically activated pig
oocytes
Biol. Reprod. 2(5):1218-23

Intercellular communication between granulosa cells and mouse oocytes:
existence and possible nutritional role during oocyte growth
Dev. Biol. 90:144-153

BUCCIONE, R., SCHROEDER, A.C., EPPIG, J.J. (1990)
Interactions between somatic cells and germ cells throughout mammalian
oogenesis
Biol. Reprod. 43:543-547
LITERATURVERZEICHNIS

CAIN, K. et al. (1999)
Caspase activation involves the formation of the apoptosome, a large caspase-activating complex
J. Biol. Chem. 274:22686-22692

Polarization of mitochondria in the unfertilised mouse oocytes
Dev. Gen. 16:36-46

Oocyte-granulosa cell heterologous gap junctions are required for the coordination of nuclear and cytoplasmic meiotic competence
Dev. Biol. 226:167-179

Effect of recovery method on yield of bovine oocytes per ovary and their development competence after maturation, fertilization and culture in vitro
Theriogenology 41:1061-1068

CHANG, M.C. (1955)
The maturation of rabbit oocytes in culture and their activation, fertilization and subsequent development in fallopian tubes

CHANG, M.C. (1959)
Fertilization of rabbit ova in vitro
Nature 179:466-467

Conversion of Bcl-2 to a Bax-like death effector by caspases
Science 278(5345):1966-8

Fertilization and early cleavage in vitro of ageing bovine oocytes after maturation in culture
Theriogenology 36:665-672

Cumulus cells act as a sperm trap during in vitro fertilization of bovine oocytes
Theriogenology 45:258

New approaches to the treatment of mitochondrial disorders

CHIQUOINE, A.D. (1954)
The identification, origin, and migration of the primordial germ cells in the mouse embryo

CHRISTODOULOU, J. (2000)
Genetic defects causing human mitochondrial respiratory chain disorders and disease
Hum. Reprod. 15 (Suppl 2):28-43
Both bovine oocytes and cumulus cells produce plasminogen activator during in vitro maturation
Theriogenology 49:309

Effect of follicle size and of the FecB Booroola gene on oocyte function in sheep
J. Reprod. Fertil. 112:379-386

Birth of an infant after transfer of anucleate donor oocyte cytoplasm into recipient eggs
Lancet 350:186-187

Cumulus-oocyte communications in the horse: role of the breeding season and the maturation medium

COMBELLES, C.M., ALBERTINI, D.F. (2001)
Microtubule patterning during meiotic maturation in mouse oocytes is determined by cell cycle-specific sorting and redistribution of γ-tubulin
Dev. Biol. 239:281-294

Involvement of the cytoskeleton in the movement of cortical granules during oocyte maturation, and cortical granule anchoring in mouse eggs
Dev. Biol. 200:103-115

Role of cyclic nucleotide phosphodiesterases in resumption of meiosis

Role of cyclic nucleotide signaling in oocyte maturation

Predictive value of cumulus cell apoptosis with regard to blastocyst development of corresponding gametes
Fertil. Steril. 84(3):627-633

Effect of the cumulus cells on in vitro fertilization of in vitro matured cow and sheep oocytes
Theriogenology 35:191

Effect of the cumulus on in vitro fertilization of bovine matured oocytes
Theriogenology 40:1259-67
Fine structure of the sheep oocytes during antral follicle development
J. Reprod. Fertil. 59:125-132

CRAN, D.G. (1985)
Qualitative and quantitative structural changes during pig oocyte maturation
J. Reprod. Fertil. 74:237-245

Proteases to die for
Genes Dev. 12(11):1551-70

Mitochondrial DNA in mammalian reproduction
Reviews of Reproduction 3:172-182

The role of mitochondria during oogenesis, fertilization and embryogenesis

The role of mitochondria in the establishment of oocyte functional competence
European Journal of Obstetrics and Gynecology and Reproductive Biology
115S, S23-S29

Mitogen-activated protein kinase activity during goat oocyte maturation and
the acquisition of meiotic competence
Mol. Reprod. Dev. 45:351-358

Rat oocyte maturation in vitro: relief of cyclic AMP inhibition with
gonadotropins
Proc. Nat. Acad. Sci. USA 75:4369-4373

DE LA FUENTE, R., EPPIG, J.J. (2001)
Transcriptional activity of the mouse oocyte genome: companion granulosa
cells modulate transcription and chromatin remodeling
Dev. Biol. 229:224-236

In vitro fertilization of in vitro-matured equine oocytes
J. Equine Vet. Sci. 10:18-22

Morphology of immature bovine oocytes
Gamete Res. 24:197-204

Heterologous cell contacts and metabolic coupling in bovine cumulus oocyte
complexes
Mol. Reprod. Dev. 28(3):255-9
Structural aspects of bovine oocyte maturation in vitro
Mol. Reprod. Dev. 31:208-214

Presence of Fas-Fas Ligand System and Bcl-2 gene products in cells and fluids from gonadotropin-stimulated human ovaries
Biol. Reprod. 63:1811-1816

Apoptosis of germ cells during human prenatal oogenesis
Hum. Reprod. (12)10:2235-41

Acquisition of meiotic competence in growing mouse oocytes is controlled at both translational and posttranslational levels
Dev. Biol. 187:43-54

DE WITT, A.A.C., KRUIP, T.A.M. (2001)
Bovine cumulus-oocyte-complex-quality is reflected in sensitivity for alpha-aminitin, oocyte diameter and developmental capacity

DOMINKO, T., FIRST, N.L. (1997)
Timing of meiotic progression in bovine oocytes and its effect on early embryo development
Mol. Reprod. Dev. 47:456-467

DONAHUE, R.D. (1968)
Maturation of the mouse oocyte in vitro: 1. Sequence and timing of nuclear progression

The influence of glucose, cumulus cells, and metabolic coupling on ATP levels and meiotic control in the isolated mouse oocyte
Dev. Biol. 167:502-512

DOWNS, S.M. (2001)
A gap-junction-mediated signal, rather than an external paracrine factor, predominates during meiotic induction in isolated mouse oocytes
Zygote 9:71-82

Cyclic adenosine monophosphate and ovarian follicular fluid act synergistically to inhibit mouse oocyte maturation
Endocrinology 114:418-427

DOWNS, S.M., SCHROEDER, A.C., EPPIG, J.J. (1986)
Serum maintains the fertilizability of mouse oocytes matured in vitro by preventing the hardening of the zona pellucida
Gamete Res. 15:115-22
Induction of maturation in cumulus cell-enclosed mouse oocytes by follicle-stimulating hormone and epidermal growth factor: evidence for a positive stimulus of somatic cell origin
J. Exp. Zool. 245:86-96

Maintenance of meiotic arrest in mouse oocytes by purines: modulation of cAMP levels and cAMP phosphodiesterase activity
Gam. Res. 23:323-334

Control of oocyte growth and maturation by follicular cells and molecules present in follicular fluid. A review.

Mitochondrial respiration and Ca\(^{2+}\) waves linked during fertilisation and meiosis completion
Development 130:683-692

Sperm-triggered (Ca\(^{2+}\)) oscillations and Ca\(^{2+}\) homeostasis in the mouse egg have an absolute requirement for mitochondrial ATP production
Development 131:3057-3067

DURANTHON, V., RENARD, J.P. (2001)
The developmental competence of mammalian oocytes: a convenient but biologically fuzzy concept
Theriogenology 55(6):1277-89

EARNshaw, W.C. et al. (1999)
Mammalian caspases: structure, activation, substrates and functions during apoptosis
Annu. Rev. Biochem. 68:383-424

EDWARDS, R.G. (1965)
Maturation in vitro of mouse, sheep, cow, pig, rhesus monkey and human ovarian oocytes
Nature 208:349-51

Spindles, mitochondria and redox potential in ageing oocytes
Reprod. BioMed. Online 8:45-58

Mitochondria directly influence fertilization outcome in the pig
Reproduction 131(2):233-45

Effect of duration of maturation, duration of gamete co-incubation and sperm concentration on cleavage and blastocyst development from cattle oocytes
Theriogenology 53:419
Culture of in vitro produced bovine zygotes in vitro vs in vivo: implications for early embryo development and quality
Theriogenology 54:659-673

EPPIG, J.J. (1982)
The relationship between cumulus cells-oocyte coupling, oocyte meiotic maturation, and cumulus expansion
Dev Biol 89:268-272

EPPIG, J.J. (1989)
The participation of cyclic monophosphate (cAMP) in the regulation of meiotic maturation of oocytes in the laboratory mouse
J. Reprod. Fertil. Suppl 38:3-8

EPPIG J.J. (1991)
Maintenance of meiotic arrest and the induction of oocyte maturation in mouse-granulosa cell-complexes developed in vitro from preantral follicles
Biol. Reprod. 45:824-830

EPPIG, J.J. (1991b)
Intercommunication between mammalian oocytes and companion somatic cells
BioEssays 13:569-574

EPPIG, J.J. (1993)
Regulation of mammalian oocyte maturation
in: Adashi, Leung; The ovary;
Raven Press, Ltd., New York

EPPIG, J.J. (1996)
Coordination of nuclear and cytoplasmic oocyte maturation in eutherian mammals
Reprod. Fertil. Dev. 8:485

EPPIG, J.J. (2001)
Oocyte control of ovarian follicular development and function in mammals
Reproduction 122:829-838

Oocyte control of granulosa cells development: how and why
Hum. Reprod. (12 Natl. Suppl. JBFS)2:127-32

The mammalian oocyte orchestrates the rate of ovarian follicular development
Proc. Natl Acad Sci. USA 99:2890-2894

EROGLU, A., MEINECKE, B. (1990)
Polypeptide synthesis in vivo and vitro matured porcine oocytes

Expression of caspase and BCL-2 apoptotic family members in mouse preimplantation embryos
Biol. Reprod. 61:231-9
An analytical model for ovarian follicle dynamics  
J.Exp.Zool. 197:173-185

Bovine oocyte diameter in relation to maturational and transcriptional activity  
Mol.Reprod.Dev. 42:437-422

Nucleus ultrastructure and transcriptional activity of bovine oocytes in preantral and early antral follicle  
Mol.Reprod.Dev. 46:208-15

Involvement of mitogen-activated protein kinase cascade during oocyte maturation and fertilization in mammals  
Biol. Reprod. 70:535-547

Many cuts to ruin: a comprehensive update of caspase substrates  
Cell. Death Diff. 10:76-100

Potential role of mitogen-activated protein kinase during meiosis resumption in bovine oocytes  
Biol. Reprod. 55(6):1261-70

FORTUNE, J.E. (1994)  
Ovarian follicular growth and development in mammals  
Biol. Reprod. 50:225

The collection of oocytes from bovine ovaries  
Theriogenology 47:977-987

DNA fragmentation of oocytes in aged mice  
Hum.Reprod. 11:1480-3

FUKUI, Y. (1990)  
Effect of follicle cells on the acrosome reaction, fertilization and developmental competence of bovine oocytes matured in vitro  
Mol. Reprod. Dev. 26:40-46

Distribution of mitochondria in reconstructed mouse oocytes  
Reproduction 127:195-200

Nuclear and cytoplasmic determinants involved in the regulation of mammalian oocyte maturation  
FUNAHASHI, H., DAY, B.N. (1993)
Effects of the duration of exposure to hormone supplements on cytoplasmic maturation of pig oocytes in vitro
J. Reprod. Fertil. 98:179-85

Follicle somatic cells influence pig oocyte penetrability and corical granule distribution
Mol. Reprod. Dev. 29:40-46

The in vitro developmental competence of bovine oocytes can be related to the morphology of the ovary
Theriogenology 48:1153-1160

Can developmentally significant spatial patterning of the egg be discounted in mammals?
Hum. Reprod. Update 2:3-27

Maturation-promoting factor and the regulation of the cell cycle

Induction of M-phase entry of prophase-blocked mouse oocytes through microinjection of okadaic acid, a specific phosphatase inhibitor
Exp. Cell. Res. 192:75-81

Cell to cell communication and ovulation: A study of cumulus oocyte complex
J. Cell. Biol. 78:58-75

Temporal association among ovarian events in cattle during oestrous cycles with two and three follicular waves
J. Reprod. Fertil. 87:223-30

GONDOS, B., BHIREAUSS, P., HOBEL, C.J. (1971)
Ultrastructural observations on germ cells in human fetal ovaries

Laboratory Production of Cattle Embryos
2. Auflage
CABI Publishing

GOUGEON, A. (1996)
Regulation of ovarian follicular development in primates: facts and hypotheses
Endocr. Rev. 17:121-55
The ovarian gap junction protein connexin 43: regulation by gonadotropins
Trends in Endocrinology and Metabolism 13:310-313

Gap junctions in the ovaries
Biol. Reprod. 57:947-957

Mitochondria and apoptosis
Science 281:1309-1312

Chromosomes of the bovine oocyte in vitro
J. Dairy Sci. 66:245

In vivo development of in vitro fertilized bovine oocytes matured in vivo versus in vitro
J. In Vitro Fert. Embryo Transfer 4:281-284

Structural and endocrine aspects of equine oocyte maturation in vivo
Mol. Reprod. Dev. 42:94-105

GROSS, A. et al. (1999)
Bcl-2 family members and the mitochondria in apoptosis
Genes Dev. 13:1899-1911

The influence of cAMP before or during bovine oocyte maturation on embryonic developmental competence
Theriogenology 55:1733-1743

Role of mitochondria in apoptosis
Exp. Physiol. 88(Pt 1):85-90

Connexin43 is involved in bovine oocyte meiotic maturation
Hum. Reprod. 16 (abstract book 1), 19

Development of bovine embryos in single in vitro production (sIVP) systems
Mol. Reprod. Dev. 51, 143-147

HAGEMANN, L.J. (1999)
Influence of the dominant follicle on oocytes from subordinate follicles
Theriogenology 51:449-59
Development during sIVP of bovine oocytes from dissected follicles: interactive effects of estrous cycle stage, follicle size and atresia
Mol. Reprod. Dev. 53:451-8

Development during single IVP of bovine oocytes from dissected follicles: interactive effects of estrous cycle stage, follicle size and atresia
Mol. Reprod. Dev. 53:451-458

In vitro fertilization and development of bovine oocytes recovered from the ovaries of individuel donors: A comparison between the cutting and aspiration method
Theriogenology 39:703-712

Comparison of 3, 4 or 7 day interval between oocyte collections for in vitro embryo production results
Theriogenology 47:158

HANSEN; P.J., BLOCK, J. (2004)
Towards an embryocentric world: the current and potential uses of embryo technologies in dairy production
Reprod. Fertil. Dev. 16:1-14

Ultrasound-guided follicle aspiration: the collection of bovine cumulus-oocyte complexes from ovaries of slaughtered or live cows
Theriogenology 51:757-765

Bovine immature oocytes acquire developmental competence during meiotic arrest in vitro
Biol. Reprod. 66:1696-1701

HASSAN, H.A. (2001)
Cumulus cell contribution to cytoplasmic maturation and oocyte developmental competence in vitro

HAWK, H.W., WALL, R.J. (1994)
Improved yields of bovine blastocysts from in vitro-produced oocytes. I. Selection of oocytes and zygotes
Theriogenology 41:1571-1583

Developmental potential of selected bovine oocyte cumulus complexes
Theriogenology 37(1):219
Relationship of morphology and follicular fluid environment of bovine oocytes
to their developmental potential in vitro
Theriogenology 43:509-522

HEGELE-HARTUNG, C., KUHNKE, J., LESSL, M., GRONDAHL, C., OTTESEN, J., BEIER,
Nuclear und cytoplasmic maturation of mouse oocytes after treatment with
synthetic Meliosis-activating sterol in vitro
Biol. Reprod. 61:1362-1372

HELEIL, B. (1999)
Untersuchung zur meiotischen Endreifung von bovinen Cumulus-Oozyten-
Komplexen in Abhängigkeit von der Follikelgröße
Veterinärmedizinische Fakultät der Universität Leipzig, Dissertation

HENDRIKSEN, P.J.M., VOS, P.L.A.M., STEENWEG, W.N.M., BEVERS, M.M.,
Bovine follicular development and its effect on the in vitro competence of
oocytes
Theriogenology 53:11-20

HENDRIKSEN, P.J.M., STEENWEG, W.N.M., HARKEMA, J.C., MERTON, J.S., BEVERS,
Effect of different stages of the follicular wave on in vitro developmental
competence of bovine oocytes
Theriogenology 61:909-920

Experimentelle Untersuchungen zur Bedeutung von Platelet-derived growth
factor (PDGF) in der frühen Embryonalentwicklung von Rinderembryonen in
einem definierten In-vitro-Produktionssystem
Hannover, Tierärztl. Hochsch., Diss.

HINRICHS, K. (1997)
Cumulus expansion, chromatin configuration and meiotic competence in horse
oocytes: a new hypothesis
Equine Vet. J. Suppl.:43-6

HINRICHS, K., DIGIORGIO, L.M. (1991)
Embryonic development after intrafollicular transfer of horse oocytes
J. Reprod. Fertil. Suppl. 44:369-374

Relationships among oocyte-cumulus morphology, follicular atresia, initial
chromatin configuration, and oocyte meiotic competence in the horse
Biol. Reprod. 57:377-84

HIRSHFIELD, A.N. (1991)
Development of follicles in mammalian ovary
Int. Rev. Cytol. 124:43-101

Bildatlas Zytologie
Verlag Harri Deutsch, Frankfurt/Main
Apoptosis in human cumulus cells in relation to maturation stage and cleavage  
of the corresponding oocyte  

Apoptosis in human cumulus cells in relation to zona pellucida thickness  
variation, maturation stage, and cleavage of the corresponding oocyte after  
intracytoplasmic sperm injection  
Fertil. Steril. 77:511-515

Transmission of the human mitochondrial genome  
Hum. Reprod. 15 (Suppl 2):235-245

Multiple rearrangements of mitochondrial DNA and defective oxidative  
phosphorylation gene expression in unfertilized human oocytes  
Fertil. Steril. 76(3s):8(O-21)

HUNTER, R.H.F. (1980)  
Techniques for in vitro maturation of gametes, in vitro fertilization, embryo  
culture and long-term storage  
in: Phys Tech of Reprod Fem Dom Anim  
Academic Press, 227-30

Stage-dependent effects of inhibiting ribonucleic acids and protein synthesis  
on meiotic maturation of bovine oocytes in vitro  
J. Dairy Sci. 70:1646-52

HYTTEL, P. (1987)  
Bovine cumulus-oocyte disconnection in vitro  
Anat. Embryol. 176:41-44

Ultrastructure of in-vitro oocyte maturation in cattle  
J. Reprod. Fertil. 78:615-625

HYTTEL, P., CALLESEN, H., GREVE, T. (1986b)  
Ultrastructural features of preovulatory oocyte maturation in superovulated  
cattle  
J. Reprod. Fertil. 76:645-656

Ultrastructure of final nuclear maturation of bovine oocytes in vitro  
Anat. Embryol. 176:35-45

Ultrastructural aspects of oocyte maturation and fertilization in cattle  
J. Reprod. Fertil. 38 (Suppl.):35-47

HYTTEL, P., NIEmann, H. (1990)  
Ultrastructure of porcine embryos following development in vitro versus in vivo  
Mol. Reprod. Dev. 27:136-144
Oocyte growth, capacitation and final maturation in cattle
Theriogenology 47:23-32

Transcriptional activity and ultrastructure in bovine oocytes

Apoptosis in cumulus cells during in vitro maturation of bovine cumulus-enclosed oocytes
Reproduction 125:369-376

Activation of mitogen-activated protein kinase during meiotic maturation in porcine oocytes
Zygote 3:265-271

Mitogen-activated protein kinase activity and microtubule organization are altered by protein synthesis inhibition in maturing porcine oocytes
Zygote 4:191-198

IRITANI, A., NIWA, K. (1977)
Capacitation of bull spermatozoa and fertilization in vitro of cattle follicular oocytes matured in culture
J. Reprod. Fertil. 50:119-121

IWAMATSU, T., YANAGIMACHI, R. (1975)
Maturation in vitro of ovarian oocytes of prepuberal and adult hamsters
J. Reprod. Fertil. 45:83-90

Follicle-stimulating hormone and growth hormone act differently on nuclear maturation while both enhance developmental competence of in vitro matured bovine oocytes
Mol. Reprod. Dev. 51:339-45

JANSEN, R. (2000)
Germline passage of mitochondria: quantitative considerations and possible embryological sequelae
Hum. Reprod. 15 (Suppl 2):112-128

The bottleneck: mitochondrial imperatives in oogenesis and ovarian follicular fate

Expression of gap junctional proteins connexin 43, 32 and 26 throughout follicular development and atresia in cows
Endocrine 10:43-51
Developmental competence of bovine oocytes retrieved from 5 and 10 mm follicles of a new follicular wave
Theriogenology 55:405

Germline stem cells and follicular renewal in the postnatal mammalian ovary
Nature 428:145-150

Apoptosis in bovine granulosa cells in relation to steroid synthesis, cyclic adenosine 3',5'-monophosphate response to follicle-stimulating hormone and luteinizing hormone, and follicle atresia
Biol Reprod 51, 934-944

Essential role of the mitochondrial apoptosis inducing factor in programmed cell death
Nature 410:549-554

Follicular dynamic and ovulation in cattle – a review
Archives of Animal Breeding 46(2):187-198

Comparative aspects of follicular development, follicular and oocyte maturation and ovulation in cattle and pigs
Archives of Animal Breeding 44:9-23

KASTELIC, J.P. (1994)
Understanding ovarian follicular development in cattle
Vet.Med. 89:64-71

Influence of hardening of the zona pellucida on in vitro fertilization of bovine oocytes
Theriogenology 32:767-77

KAUFFOLD, P., THAMM, I.(1985)
Zustandsbeurteilung von Rinderembryonen
Forschungszentrum für Tierproduktion Dummerstorf-Rostock der Akademie der Landwirtschaftswissenschaften der DDR Berlin

Effect of follicle-stimulating hormone and luteinizing hormone during bovine in vitro maturation on development following in vitro fertilization and nuclear transfer
Mol. Reprod. Dev. 36:469-474
Apoptosis: A basic biological phenomenon with wideranging implications in
tissue kinetics
Br. J. Cancer 26:239-57

The distribution and requirements of microtubules and microfilaments in
bovine oocytes during in vitro maturation
Zygote 8:25-32

Meiosis in bovine oocytes matured in vitro and in vivo
Acta Vet. Scand. 27:267-79

Zellbiologie
4. Auflage
Verlag Gustav Fischer, Stuttgart; Jena; Lübeck; Ulm

Growth hormone-related effects on apoptosis, mitosis, and expression of
connexin 43 in bovine in vitro maturation cumulus-oocyte complexes
Biol. Reprod. 68:1584-1589

Evidence that caspase-13 is not a human but a bovine gene

Epigenetic modifications during oocyte growth correlates with extended
parthenogenetic development in the mouse
Nature Genet. 13:91-94

KOTHAKOTA, S., AZUMA, T., REINHARD, C., KLIPPEL, A., TANG, J., CHU, K.,
MCGARRY, T.J., KIRSCHNER, M.W., KOTHS, K., KWIAKTOWSKI, D.J.,
Caspase-3-generated fragment of gelsolin: effector of morphological change
in apoptosis
Science 278(5336):294-8

Techniques of bovine embryo production and their possible consequences for
breeding strategies and the future role of practitioners in embryo transfer
1997,
Kongressbericht S. 115-122

Biochemie
7. Auflage
Jungjohann Verlag mbH, Neckarsulm; Stuttgart
In vitro maturation of bovine oocytes requires polyadenylation of mRNAs
coding proteins for chromatin condensation, spindle assembly, MPF and MAP
kinase activation

Correlation of mitochondrial organization with developmental competence in
bovine oocytes matured in vitro
Biol. Reprod. 56:602

Structural changes in bovine oocytes during final maturation in vivo
Gamete Res. 8:29-47

Butyrolactone I reversibly inhibits meiotic maturation of bovine oocytes,
without influencing chromosome condensation activity

Cleavage of structural proteins during the assembly of the head of
bacteriophage T4
Nature 227:680-685

LAURINCIK, J., HYTTEL, P., BARAN, V., SCHMOLL, F., NIEMANN, H., BREM, G.,
SCHELLANDER, K. (1996)
Corona radiata density as a non-invasive marker of bovine cumulus-corona-
ovoocyte complexes selected for in vitro embryo production
Theriogenology 46:369-377

Differential modulation of rat follicle cell gap junction populations at ovulation
Dev. Biol. 122:61-71

LARSEN, W.J., CHEN, L., POWERS, R., ZHANG, H., RUSSELL, P.T., CHAMBERS, C.,
HESS, K., FLICK, R. (1996)
Cumulus expansion initiates physical and developmental autonomy of the
ovocyte
Zygote 4:335-341

Cumulus cells apoptosis as an indictor to predict the quality of oocytes and the
outcome of IVF-ET
Assist. Reprod. Genet. 18:490-498

In-vitro maturation: some questions concerning the initiation and prevention of
this process in humans
Hum. Reprod. 2:495-497

Prinzipien der Biochemie
2. Auflage
Spektrum Verlag, Heidelberg; Oxford
LEIBFRIED, L., FIRST, N.L. (1979)  
Characterization of bovine follicular oocytes and their ability to mature in vitro  
J. Anim. Sci. 48:76-86

Development potential of bovine oocytes matured in vitro or in vivo  
Biol. Reprod. 36(2):376-83

Connexin 43 gap junction protein expression during follicular development in the porcine ovary  
Biol. Reprod. 58:583-590

Cytochrome c and dATP-dependent formation of APAF-1/caspase-9 complex initiates an apoptotic protease cascade  
Cell 91(4):479-89

Oocyte-secreted factor(s) determine functional differences between bovine mural granulosa cells and cumulus cells  
Biol. Reprod. 63:839-845

Comparison of mitochondrial DNA contents in human embryos with good or poor morphology at the 8-cell stage  
Fertil. Steril. 81:73-79

Mitochondrial modulation of calcium signaling at the initiation of development  
Cell. Calcium. 30:423-433

LÖFFLER, G. (1999)  
Basiswissen Biochemie  
2. Auflage  
Springer Verlag, Berlin

Effect of follicle size on bovine oocyte quality and developmental competence following, maturation, fertilization and culture in vitro  

Bovine oocyte and embryo development following meiotic inhibition with butyrolactone I  
Mol. Reprod. Dev. 57:204-209

Oocyte and embryo quality: effect of origin, culture conditions and gene expression patterns  
Relationship between development, metabolism, and mitochondrial organization in 2-cell hamster embryos in the presence of low levels of phosphate
Biol. Reprod. 65:1648-1654

Mitochondrial distribution of swine ova and embryos analyzed by rhodamine 123 fluorescent assay

Selection of immature bovine oocytes for development potential in vitro

Utilization of the growth phase of the first follicular wave for bovine oocyte collection improves blastocyst production
Theriogenology 54:543-50

Developmental competence of bovine oocytes: effects of follicle size and the phase of follicular wave on in vitro embryo production
Theriogenology 61:329-335

Device to recover bovine cumulus-oocyte complexes (COCs) without destroying their cumulus layers from antral ovarian follicles
in: Proceedings 15th Meeting European Embryo Transfer Association, Lyon, S. 198

The caspase-3 precursor has a cytosolic and mitochondrial distribution: implications for apoptotic signaling

Apoptosis occurs in granulosa cells but not cumulus cells in the atretic antral follicles in pig ovaries
Experientia 52:647-651

Comparison among oocytes recovery methods for bovine embryo production in vitro
in: Piva, G., Bertoni, G., Masoero, F., Bani, P., Calamari, L.
Proceedings ASPA 13th Congress, S. 235-237

Cell cycle dependent morphology changes and associated redistribution in mitochondria of human cell lines
Mitochondrion 1:425-435
Effect of refrigeration of donor ovaries on the in vitro production of bovine embryos and granulosa cell culture

Expanded cumuli induce acrosome reaction in boar sperm
Mol. Reprod. Dev. 51:445-453

MATTSON, B.A., ALBERTINI, D.F. (1990)
Oogenesis: chromatin and microtubule dynamics during meiotic prophase
Mol. Reprod. Dev. 25:374-383

Intercellular communications in the mammalian ovary: oocytes carry the conversation
Science 296:2178-2180

MAYES, M.A., SIRARD, M.A. (2001)
The influence of cumulus-oocyte complex morphology and meiotic inhibitors on the kinetics of nuclear maturation in cattle
Theriogenology 55:911-922

MEMILI, E., FIRST, N.L. (1999)
Control of gene expression at the onset of bovine embryonic development
Biol. Reprod. 61:1198-1207

Aspects of follicular and oocyte maturation that affect the developmental potential of embryos
J. Reprod. Fertil. Suppl. 54:449-60

High developmental competence of cattle oocytes maintained at the germinal vesicle stage for 24 hours in culture by specific inhibition of MPF kinase activity
Mol. Reprod. Dev. 55:89-95

METZSTEIN, M.M. et al. (1998)
Genetics of programmed cell death in C. elegans: past, present and future
Trends Genet. 14:410-416

Incidence of apoptosis in granulosa cells from immature human follicles
Reproduction 122:481-486

Effect of oxygen concentration during oocyte maturation on subsequent bovine embryo cleavage and development in vitro
in: Research Series Nr. 478
Arkansas Agricultural Experiment Station, 43-44
The apoptotic profile of human cumulus cells changes with patient age and
after exposure to sperm but not in relation to oocyte maturity
Fertil. Steril. 77(5):1006-11

MONAGHAN, P., CAROLAN, C., LONERGAN, P., SHARIF, H., WAHID, H., GORDON, I.
(1993)
The effect of maturation time on the subsequent in vitro development of bovine
oocytes
Theriogenology 39:270

Measurement of intercellular coupling between oocytes and cumulus cells
using intracellular markers
Exp. Cell Res. 126:15-29

Select effect of gonadotropins of cell coupling, nuclear maturation and
protein synthesis in mammalian oocytes
J. Embryol. Exp. Morph. 61:347-365

Protein requirement for germinal vesicle breakdown in ovine oocytes
J. Embryol. Exp. Morphol. 94:207-20

Roles of gap junctional communication of cumulus cells in cytoplasmic
maturation of porcine oocytes cultured in vitro
Biol Reprod 62:913-919

Correlation between the Cell Number and Diameter in bovine embryos
produced in vitro

MOSIMANN, W., KOHLER, T. (1990)
Zytologie, Histologie und mikroskopische Anatomie der Haussäugetiere
Verlag Paul Parey Berlin, Hamburg

MOTLIK, J., FULKA, J. (1976)
Breakdown of the germinal vesicle in pig oocytes in vivo and in vitro
J. Exp. Zool. 198:155-162

Breakdown of germinal vesicle in bovine oocytes cultivated in vitro

MOTLIK, J., FULKA, J. (1986)
Factors affecting meiotic competence in pig oocytes
Theriogenology 25:87-96
RNA and protein synthesis requirements for the resumption of meiosis in rabbit oocytes: The role of cumulus cells

MOTLIK, J., RIMKEVICOVA, Z. (1990)
Combined effects of protein synthesis and phosphorylation inhibitors on maturation of mouse oocytes in vitro
Mol. Reprod. Dev. 27:230-234

MOTLIK, J., KUBELKA, M. (1990b)
Cell-cycle aspects of growth and maturation of mammalian oocytes
Mol. Reprod. Dev. 27:366-375

Oocyte-follicle cells association during development of human ovarian follicle: a study by high resolution scanning and transmission electron microscopy
Arch Histol Cytol 57:369-94

Natural history of the female germ from ist origin to full maturation through prenatal ovarian development
European Journal of Obstetrics and Gynaecological Reproduction 75:5-10

Mitochondrial morphology in human fetal and adult female germ cells
Hum. Reprod. 15(Suppl 2):129-47

Cytoplasmic factors influence mitochondrial reorganization and resumption of cleavage during culture of early mouse embryos
Hum. Reprod. 3:1020-1028

Incidence of apoptotic bodies in membrana granulosa of patients participating in an in vitro fertilization program
Fertil. Steril. 67:302-308

Change of the mitochondrial distribution in mouse ooplasm during in vitro maturation
J. Nippon Med. Sch. 70(5):408-15

Mitochondrial distribution after fast embryo freezing
Hum Reprod 8:2115-2118

NURSE, P. (1990)
Universal control mechanism regulating onset of M-phase
Nature 344:503-508
Comparative immunohistochemical distribution of connexin 37 and connexin 43 throughout folliculogenesis in the bovine ovary  
Mol. Reprod. Dev. 57:60-66

Developmental capacity, energy metabolism and ultrastructure of mature oocytes from prepubertal and adult sheep  
Reprod. Fertil. Dev. 8:1029-37

The influence of different types of media supplement on the meiotic maturation of bovine oocytes in vitro  
Theriogenology 41:405-411

Influence of follicle size, medium, temperature and time on the incidence of diploid bovine oocytes matured in vitro  
Theriogenology 51:667-672

Proliferating cell nuclear antigen marks the initiation of follicular growth in the rat  
Biol. Reprod. 53:295-301

Apoptotic cell death in human granulosa-lutein cells: a possible indicator of in vitro fertilization outcome  
Fertil. Steril. 70:747-749

Bovine oocyte diameter in relation to developmental competence  
Theriogenology 48:769-774

Expression of connexion 43 and gap junctional intercellular communication in the cumulus-oocyte complex in sheep  
Reproduction 129:191-200

Analysis of caspase-3, caspase-8 and caspase-9 enzymatic activities in mouse oocytes and zygotes  
Zygote 12:57-64

Penetration of bovine follicular oocytes by frozen-thawed spermatozoa in the presence of caffeine and heparin  
J. Reprod. Fertil. 86:577-582
Bovine in vitro fertilization with frozen-thawed semen  
Theriogenology 25:591-600

Fertilization and developmental competence of bovine oocytes derived from different categories of antral follicles  
Mol. Reprod. Dev. 31:63-7

PEARL, R., SCHOPPE, W.F. (1929)  
Studies on the physiology of reproduction in the domestic fowl  
J. Exp. Zool. 34:101-118

Evaluation of different culture systems on the in vitro production of bovine embryos  
Theriogenology 63:1131-1141

PEREZ, G., TILLY, J. (1997)  
Cumulus cells are required for the increased apoptotic potential in oocytes of aged mice  
Hum. Reprod. 12:2781-2783

Apoptosis-associated signaling pathways are required for chemotherapy-mediated germ cell destruction  
Nat. Med. 3:1228-32

Fragmentation and death (aka apoptosis) of ovulated oocytes  
Mol. Hum. Reprod. 5:414-20

Mitochondria and the death of oocytes  
Nature 403:500-501

The molecular basis of oocyte growth and development  

PICTON, H.M. (2001)  
Activation of follicle development: the primordial follicle  
Theriogenology 55:1193-1210

PINCUS, G., ENZMANN, E.V. (1935)  
The comparative behaviour of mammalian eggs in vivo and in vitro  
J. Exp. Med. 62:665-675

PINYOPUMMINTR, T., BAVISTER, B.D. (1994)  
Effect of gaseous atmosphere on in vitro maturation and in vitro fertilization of bovine oocytes  
Theriogenology 41:276
PLATTNER, H., HENTSCHEL, J. (1997)
Taschenlehrbuch Zellbiologie
Georg Thieme Verlag, Stuttgart

Bovine oocytes treated prior to in vitro maturation with a combination of
butyrolacton I and roscovitine at low doses maintain a normal developmental
capacity
Mol. Reprod. Dev. 60:579-585

Combined effects of calcium and dibutyryl cyclic AMP on germinal vesicle
breakdown in the mouse oocyte
J. Reprod. Fertil. 66:1-8

POZO, J., CORRAL, E., PEREDA, J. (1990)
Subcellular structure of prenatal human ovary: mitochondrial distribution
during meiotic prophase

PROKOFIEV, M.I., ERNST, L.K., SURAeva, N.M., LAGUTINA, I.S., UDAVLENNIKOVA,
Bovine oocyte maturation, fertilization and further development in vitro and
after transfer into recipients
Theriogenology 38:461-469

Regulation of Fas antigen (Fas, CD95)-mediated apoptosis of bovine
granulosa cells by serum and growth factors
Biol Reprod 63:1278-1284

RACOWSKY, C. (1986)
The releasing action of calcium upon cyclic AMP-dependent meiotic arrest in
hamster oocytes
J. Exp. Zool. 239:263-275

In vitro and in vivo studies reveal that hamster oocyte meiotic arrest is
maintained only transiently by follicular fluid, but persistently by
membrane/cumulus granulosa cell contact
Dev. Biol. 134:297-306

RAFF, M.C. (1992)
Social controls on cell survival and cell death
Nature 356:397-400

RAJAKOWSKI, E. (1960)
The ovarian follicular system in sexually mature heifers with special refernece
to seasonal, cyclical and left-right variation
Acta. Endocrin. 34 (Suppl.52):7-78

Ultrastructural studies of developing goat oocytes in vitro
Theriogenology 42:1003-1016
Bovine cumulus cell expansion does not depend on the presence of an oocyte secreted factor

Comet assay of cumulus cell DNA status and the relationship to oocyte fertilization via intracytoplasmic sperm injection
Hum. Reprod. 16:831-835

Mitochondria: the killer organelles and their weapons

Mitochondria-assisted cell suicide: a license to kill
J. Mol. Cell. Cardiol. 35:559-567

Long PCR analysis of human gamete mtDNA suggests defective mitochondrial maintenance in spermatozoa and supports the bottleneck theory for oocytes

Microtubulin configuration and mitochondrial distribution after ultr-rapid cooling of bovine oocytes
Mol. Reprod. Dev. 63(4):464-70

RICHARD, F.J., SIRARD, M.A. (1996a)
Effects of follicular cells on oocyte maturation
I: Effects of follicular hemisections on bovine oocyte maturation in vitro
Biol. Reprod. 54:16-21

RICHARD, F.J., SIRARD, M.A. (1996b)
Effects of follicular cells on oocyte maturation
II: Theca cell inhibition of bovine oocyte maturation in vitro
Biol. Reprod. 54:22-8

Role of phosphodiesterase type 3A in rat oocyte maturation
Biol. Reprod. 65:1444-1451

RICHTER, J.D. (1999)
Cytoplasmic polyadenylation in development and beyond
Mol. Biol. Rev. 63:446-456

Consequences of bovine oocyte maturation, fertilization or early embryo development in vitro versus in vivo: implications for blastocyst yield and blastocyst quality
Mol. Reprod. Dev. 61:234-48
Differential display and suppressive subtractive hybridization used to identify
granulosa cell messenger RNA associated with bovine oocyte developmental
competence
Biol. Reprod. 64:1812-1820

Roles of gene transcription and PKA subtype activation in maturation of
murine oocytes
Reproduction 123:799-806

RODRIGUEZ, K.F., FARIN, C.E. (2004a)
Developmental capacity of bovine cumulus oocyte complexes after
transcriptional inhibition of germinal vesicle breakdown
Theriogenology 61:1499-1511

RODRIGUEZ, K.F., FARIN, C.E. (2004b)
Gene transcription and regulation of oocyte maturation
Reproduction, Fertility and Development 16:55-67

RUBIO POMAR, F.J., ROELEN, B.A., SLOT, K.A., VAN TOL, H.T., COLENBRANDER, B.,
TEERDS, K.J. (2004)
Role of Fas-mediated apoptosis and follicle-stimulating hormone on the
developmental capacity of bovine cumulus oocyte complexes in vitro
Biol. Reprod. 71(3):790-6

RÜSSE, I., SINOWATZ, F. (1991)
Lehrbuch der Embryologie der Haustiere
Verlag Paul Parey, Berlin, Hamburg

Effects of cumulus cells on sperm penetration of bovine oocytes in protein-free
medium
Theriogenology 42:1115-1123

SANTHANANTHAN, A.H. (1997)
Ultrastructure of the human egg
Hum. Cell. 10:21-38

Morphology and pathology of the human oocyte
in: Biology and Pathology of the oocyte; S. 185-207
Trounson, A.O., Gosden, R.G.
Cambridge University Press

Ultrastructural observations on cortical granules in human follicular oocytes
cultured in vitro
Gamete Res 5:191-8

Maturation of human oocyte
in: Familiari, G.S., Makabe, S., Motta, P.M.: Ultrastructure of the ovary
Mitochondrial morphology during preimplantation human embryogenesis
Hum Reprod 15 (Suppl.2):148-59

Base SAS® 9.1.3 Producers Guide
Cary, NC

SAS (Statistical Analysis Systems) Institute Inc. (2004b)
SAS/STAT® 9.1 User’s Guide
Cary, NC

SCHNORR, B. (1996)
Embryologie der Haustiere
3. Auflage
Ferdinand Enke Verlag, Stuttgart

Effect of follicle-stimulating hormone on nuclear and cytoplasmic maturation of sow oocytes in vitro
Theriogenology 59:2017-2028

Comparative analysis of the polypeptide pattern of cumulus cells during maturation of porcine cumulus oocyte complexes in vivo and in vitro

SCHUFFENHAUER, W., PEMSEL, H., DUSCHINSKI, U. (1987)
Follikelentwicklung bei Rindern
Adl der DDR, FZT Dummerstorf-Rostock; F/E Bericht

SCHULTZ, R.M., WASSARMAN, P.M. (1977)
Biochemical studies of mammalian oogenesis: Protein synthesis during oocyte growth and meiotic maturation in the mouse

Regulation of oocyte maturation in the mouse: possible roles of intercellular communications, cAMP and testosterone
Dev. Biol. 95:294-304

SEKINE, J., SAKURADA, T., OURA, R. (1992)
Optimum temperature of ovary transportation for in vitro fertilization of bovine oocytes
Vet Rec 131:372

In vitro development up to hatching of bovine in vitro-matured and fertilized oocytes with or without support of somatic cells
Theriogenology 39:1067-1079
Maturation in vitro and subsequent penetrability of bovine follicular oocytes
J. Anim. Sci. 43:809-15

Effects of temperature gradients in in vitro maturation of bovine oocytes
Theriogenology 50:667-674

SHIGENAGA, M., HAGEN, T., AMES, B. (1994)
Oxidative damage and mitochondrial decay in ageing

SHIMIZU, S., TSUJI, M., DEAN, J. (1983)
In vitro biosynthesis of three sulfated glycoproteins of murine zonae pellucidae
by oocytes grown in follicle culture
J. Biol. Chem. 258:5858-5863

In vitro fertilization and cleavage capability of bovine follicular oocytes
classified by cumulus cells and matured in vitro
Theriogenology 30(3):489-496

In vitro inhibition of oocyte nuclear maturation in the bovine
Reproduction 39:229-234

Timing of nuclear progression and protein synthesis necessary for meiotic
maturation of bovine oocytes
Biol. Reprod. 40:1257-1263

Granulosa cells inhibit the resumption of meiosis in bovine oocytes in vitro
Biol. Reprod. 43:777-783

Effect of fresh or cultured follicular fractions on meiotic resumption in bovine
oocytes
Theriogenology 37(1):39-57

The time interval between FSH-P administration and ovarian aspiration
influences the development of cattle oocytes
Theriogenology 51:699-708

SIRARD, M.A. (2001)
Resumption of meiosis: mechanism involved in meiotic progression and ist
relation with developmental competence
Theriogenology 55:1241-1254

Ovarian follicular dynamics during estrous cycle in heifers monitored by real-
time ultrasonography
Biol. Reprod. 39:308-317
SORENSEN, R.A., WASSARMAN, P.M. (1976)
Relationship between growth and meiotic maturation of the mouse oocyte
Dev. Biol. 50:531-536

Altering intracellular pH disrupts development and cellular organization in
preimplantation hamster embryos
Biol. Reprod. 64:1845-1854

(2003)
Imaging mitochondrial organization in living primate oocytes and embryos
using multiphoton microscopy
Microsc. Microanal. 9:190-201

SREENAN, J.M. (1968)
In vivo and in vitro culture of cattle eggs
in: Proceedings 6th International Congress on Animal Reproduction and AI,
Paris
Vol. 1, S. 577-580

STEPTOE, P.C., EDWARDS, R.G. (1978)
Birth after the reimplantation of a human embryo
Lancet 2:366

The potential risks of abnormal transmission of mtDNA through assisted
reproductive technologies
Reprod. BioMed. Online 8:34-44

STOJKOVIC, M., MOTLIK, J., KÖLLE, S., ZAKHARTCHENKO, V., ALBERIO, R.,
SINOWATZ, F., WOLF, E. (1999)
Cell-cycle control and oocyte maturation: Review of literature
Reprod. Dom. Anim. 34:335-342

STOJKOVIC, M., MACHADO, S.A., STOJKOVIC, P., ZAKHARTCHENKO, V., HUTZLER,
P. GONCALVES, P.B., WOLF, E. (2001)
Mitochondrial distribution and adenosine triphosphate content of bovine
oocytes before and after in vitro maturation: Correlation with morphological
criteria and developmental capacity after in vitro fertilization and culture
Biol. Reprod. 64(3):904-909

STRYER, L. (1996)
Biochemie
4. Auflage
Spektrum Verlag, Heidelberg, Berlin, Oxford

Morphology and meiotic development of bovine oocytes cultured in vitro
Arch. Androl. 11:217-218

Stages of the first meiotic division observed in bovine oocytes matured in vitro
Theriogenology 23(1):231
Chromosome configurations and time sequence of the first meiotic division in bovine oocytes matured in vitro
Biol. Reprod. 38:871-880

Cumulus expansion, in vitro fertilization and embryonic development after in vitro maturation of bovine oocytes in the presence of follicle stimulating or luteinizing hormone
Reprod. Dom. Anim. 25:3-13

Role of the MAPK cascade in mammalian germ cells
Reprod. Fertil. Dev. 11:443-450

Translocation of active mitochondria during pig oocyte maturation, fertilization and early embryo development in vitro
Reproduction 122:155-163

Bcl-2 inhibits the mitochondrial release of an apoptogenic protease
J. Exp. Med. 184:1331-1342

F-actin is involved in control of bovine cumulus expansion
Mol. Reprod. Dev. 41:521-529

Dynamic changes of cumulus-oocyte cell communication during in vitro maturation in porcine oocytes
Biol. Reprod. 63:723-9

Ultrastructure of the human preovulatory oocyte
J. In Vitro Fert. Embryo Transfer 3(4):232-242

SZÖLLÖSI, D. (1967)
Development of cortical granules and the cortical reaction in rat and hamster eggs
Anat. Rec. 159:431-446

SZYBEK, K. (1972)
In vitro maturation of oocytes from sexually immature mice
J. Endocrinol. 54:527-528

Apoptosis in the degeneration process of unfertilized mouse ova
J. Exp. Med. 175, 69-76
TANAKA, Y., NAKADA, K., Moriyoshi, M., Sawamukai, Y. (2001)
Appearance and number of follicles and change in the concentration of serum FSH in in female bovine fetuses
Reproduction 121:777-782

Cumulus contributions during bovine fertilization in vitro
Theriogenology 60:135-149

Mitochondrial activity, distribution and segregation in bovine oocytes and in embryos produced in vitro
Reprod. Dom. Anim. 41:5-11

TESORIERO, J.V. (1982)
A morphologic, cytochemical, and chromatographic analysis of lipid yolk formation in the oocytes of the dog
Gamete Res. 6:267-79

THIBAULT, B. (1977)
Are follicular maturation and oocyte maturation independent processes?
J. Reprod. Fertil. 51:1-15

Mammalian oocyte maturation

Caspases: enemies within
Science 281:1312-1316

Mitochondrial dysfunction in mouse oocytes results in preimplantation embryo arrest in vitro

Involvement of apoptosis in ovarian follicular atresia and postovulatory regression
Endocrinology 129:2799-2801

Hyaluronan synthesis by mouse cumulus cells is regulated by interactions between follicle-stimulating hormone (or epidermal growth factor) and a soluble oocyte factor (or transforming growth factor beta 1)
J. Biol. Chem. 272:4787-4794

TODOROV, J. (1994)
Über den Einfluss verschiedener Faktoren auf die In-vitro-Befruchtungs- und Kerntransferergebnisse mit Rindereizellen
Hannover, Tierärztl. Hochschule, Dissertation
Sequential observations of mitochondrial distribution in mouse oocytes and embryos

Comparative analysis of protein synthesis, transcription and cytoplasmic polyadenylation of mRNA during maturation of bovine oocytes in vitro

Meiosis, egg activation, and nuclear envelope breakdown are differentially reliant on Ca²⁺, whereas germinal vesicle breakdown is Ca²⁺ independent in the mouse oocyte

Structural and functional changes in porcine cumulus-oocyte-complexes during preovulatory maturation

TORNER, H., KUBELKA, M., HELEIL, B., TOMEK, W., ALM, H., KUZMINA, T., GUIARD, V. (2001)
Dynamics of meiosis and protein kinase activities in bovine oocytes correlated to prolactin treatment and follicle size
Theriogenology 55:885-899

Parallel investigation on mitochondrial activity and chromatin configuration in horse oocytes during preovulatory maturation in vitro
Proceedings of the Third Meeting of the European Equine Gamete Group Havemeyer Foundation Monograph Series No. 13
12.-15.10.2003, Pardubice

Changes in cumulus-oocyte complexes of pregnant and non-pregnant camels (Camelus dromedarius) during maturation in vitro
Theriogenology 60:977-987

Mitochondrial aggregation patterns and activity in porcine oocytes and apoptosis in surrounding cumulus cells depends on the stage of pre-ovulatory maturation
Theriogenology 61:1675-1689

Heterogenous distribution and replication activity of mitochondria in Xenopus laevis oocytes
TOWBIN, H., STAEHELIN, T., GORDON, J. (1979)
Electrophoretic transfer of proteins from polyacrylamide gels to nitrocellulose sheets: procedure and some applications

Oxidative phosphorylation-dependent and –independent oxygen consumption by individual preimplantation mouse embryos
Biol. Reprod. 62:1866-1874

Mitochondrial membrane potenti and DNA stainability in human sperm cells: a flow cytometry analysis with implications for male infertility

Fertilization and development capability of bovine follicular oocytes matured in vitro and in vivo and transferred to the oviducts of rabbits and cows
J. Reprod. Fertil. 51:321-327

Maturation of human oocytes in vitro and their developmental competence
Reproduction 121:51-75

UDE, KOCH (2002)
Die Zelle
3. Auflage 2002, Spektrum Verlag

VAN BLERKOM, J. (1991)
Microtubule mediation of cytoplastic and nuclear maturation during the early stages of resumed meiosis in cultured mouse oocytes

VAN BLERKOM, J. (2000)
Differential mitochondrial distribution in human pronuclear embryos leads to disproportionate inheritance between blastomeres: Relationship to microtubular organization, ATP content and competence
Hum. Reprod. 15:2621-2633

Mitochondria in human oogenesis and preimplantation embryogenesis: engines of metabolism, ionic regulation and developmental competence
Reproduction 128:269-280

Mitochondrial reorganization during resumption of arrested meiosis in the mouse oocyte
Am. J. Anat. 171(3):335-55

ATP content of human oocytes and developmental potential and outcome after in-vitro fertilization and embryo transfer
Hum. Reprod. 10:415-424
VANDERHAYDEN, B.C., SWANN, K., EPPIG, J.J. (1992)
Mouse oocytes promote proliferation of granulosa cells from preantral and antral follicles in vitro
Biol. Reprod. 46:1196-1204

Function of the cumulus oophorus before and during mammalian fertilization

Morphology and developmental competence of bovine oocytes relative to follicular status
Theriogenology 60:923-932

Toward an understanding of the molecular mechanisms of physiological cell death

Mitochondrial organization in prepubertal goat oocytes during in vitro maturation and fertilization
Mol. Reprod. Dev. 73(5):617-26

Apoptosis: A programmed cell death involved in ovarian and uterine physiology

IVF in Piedmontese breed: production data related to oocyte characteristics in: Proceedings 14th Meeting European Embryo Transfer Association, Venice, S. 266

Involvement of connexin 43 in meiotic maturation of bovine oocytes
Reproduction 122:619-628

WASSARMAN, P.M., ALBERTINI, D.F. (1994)

WEBB, R.J., MARSHALL, F., SWANN, K., CARROLL, J. (2002)
Follicle-stimulating hormone induces a gap junction-dependent dynamic change in (cAMP) and protein kinase a in mammalian oocytes
Dev. Biol. 246:441-454

The meiotic cell cycle in oocytes of domestic animals
WEHRENDE, A., MEINECKE, B. (1999)
Bovine and procine oocytes display significant differences in the duration of
individual meiotic stages during in vitro maturation
Reprod. Dom. Anim. 34:32

Meiotic competence acquisition is associated with the appearance of M-phase
characteristics in growing mouse oocytes
Dev. Biol. 143:162-172

WILDING, M., DALE, B.; MARINO, M., DI MATTEO, L., ALVIGGI, C., PISATURO, M.L.,
Mitochondrial aggregation patterns and activity in human oocytes and
preimplantation embryos

WILDING, M., CAROTENUTO, R., INFANTE, V., DALE, B., MARINO, M., DI MATTEO L.
(2001b)
Confocal microscopic analysis of the activity of mitochondria container within
the “mitochondrial cloud” during oogenesis in Xenopus laevis
Zygote 9(4):347-52

WILDING, M.G., DALE, B., DE PLACIDO, G. (2001c)
Confocal measurements of mitochondria activity during human pre-
implantation embryo development
Fertil. Steril. 76(3s):205(P-281)

WITSCHI, E. (1948)
Migration of the germ cells of human embryos from the yolk sac to the
primitive gonadal folds
Contribut. Embryol. 209:67-80

WU, B., IGNOTZ, G., CURRIE; W.B., YANG, X. (1997)
Dynamics of maturation-promoting factor and its constituent proteins during in
vitro maturation of bovine oocytes
Biol. Reprod. 56:253-259

Maturation and apoptosis of human oocytes in vitro are age-related
Fertil. Steril. 74:1137-1141

Bovine embryo production in vitro after selection of the follicles and oocytes
The Netherlands I:387-9

Caenorhabditis elegans CED-9 protein is a bifunctional cell-death inhibitor
Nature 390(6657):305-8
Morphological and biochemical identification of apoptosis in small, medium,
and large bovine follicles and the effects of follicle-stimulating hormone and
insulin-like growth factor-I on spontaneous apoptosis in cultured bovine
granulosa cells
Biol. Reprod. 62:1209-1217

YANG, S.H., LIU, R., PEREZ, E.J., WEN; Y., STEVENS, S.M. JR., VALENCIA, T., BRUN-
Mitochondrial localization of estrogen receptor beta

Control of oocyte maturation in cows-biological factors
Theriogenology 49:471-82

YANG, Y.B., LU, K.H. (1990)
The influence of bovine oocyte type on in vitro fertilization and subsequent
development in vitro
Theriogenology 33(1):355

Effect oocyte diameter on in vitro nuclear maturation of korean native cattle oocyte
Theriogenology 47:205

YUAN, Y.Q., PEELMAN, L.J., WILLIAMS, J.L., VAN ZEVEREN, A., DE KRUIF; A., LAW,
Mapping and transcription profiling of Casp1, 3, 6, 7 and 8 in relation to
caspase activity in the bovine cumulus-oocyte complex
Anim. Genet. 35:234-237

Structure of the cumulus matrix and zona pellucida in the golden hamster: a
new view of sperm interaction with oocyte-associated extracellular matrices
Cell Tiss. Res. 251:555-564

ZAMZAMI, N., SUSIN, S.A., MARCHETTI, P., HIRSCH, T., GOMEZ-MONTERREY, I.,
Mitochondrial control of nuclear apoptosis
J. Exp. Med 183:1533-1544

Cytoskeletal organization of rat oocytes during metaphase II arrest and
following abortive activation: A study by confocal laser scanning microscopy
Mol. Reprod. Dev. 35:165-175

Apoptosis within bovine follicular cells and its effect on oocyte development
during in vitro maturation
Theriogenology 59:1421-1433
Cumulus cell function during bovine oocyte maturation, fertilization, and embryo development in vitro
Mol. Reprod. Dev. 40:338-344

ZHOU, L., KIMATA, K. (2001)
Cumulus oophorus extracellular matrix: Its construction and regulation
Cell Structure and Function 26:189-196