

Prof. Dr. Ruth Grümmer

Publications

1. Koch Y, Wimberger P, Grümmer R (2018): **HCG induces decidualization of ectopic human endometrium more effectively than forskolin in an in-vivo endometriosis model.** *Exp. Biol. Med.*, in press
2. Petersen R, Grümmer R, Jendrossek V, Sauerwein W, Schara U (2018): **Mentoring in a Medical Faculty - Chance for Organisational Learning.** *Int. J. of Learning and Change*, in press
3. Demond H, Dankert D, Gruemmer R, Horsthemke B (2017) **Preovulatory oocyte aging in mice affects fertilization rate and embryonic genome activation.** *bioRxiv* doi: 10.1101/209437
4. Demond H, Trapphoff T, Dankert D, Heiligentag M, Grümmer R, Horsthemke B, Eichenlaub-Ritter U (2016): **Preovulatory aging in vivo and in vitro affects maturation rates, abundance of selected proteins, histone methylation pattern and spindle integrity in murine oocytes.** *PLOS One*, 2016 Sep 9;11(9):e0162722
5. T. Trapphoff, M. Heiligentag, D. Dankert, H. Demond, D. Deutsch, T. Fröhlich, G. J. Arnold, R. Grümmer, B. Horsthemke, U. Eichenlaub-Ritter (2016) **Postovulatory aging affects dynamics of mRNA, expression and localization of maternal effect proteins, spindle integrity and pericentromeric proteins in mouse oocytes.** *Human Reproduction* 31(1): 133-149.
6. Schumann S, Buck VU, Classen-Linke I, Wennemuth G, Grümmer R (2015) **Claudin-3, -7, and -10 show different distribution patterns during decidualization and trophoblast invasion in mouse and human.** *Histochem Cell Biol* 144: 571–585.
7. Dankert D, Demond H, Trapphoff T, Heiligentag M, Rademacher K, Eichenlaub-Ritter U, Horsthemke B, Grümmer R (2014). **Pre- and postovulatory aging of murine oocytes affect the transcript level and poly(A) tail length of maternal effect genes.** *PLoSone* Oct 1;9(10):e108907. doi: 10.1371/journal.pone.0108907.
8. Söhngen L, Schmidt M, Wimberger P, Kimmig R, Grümmer R (2014). **Additional B-cell deficiency does not affect growth and angiogenesis of ectopic human endometrium in T-cell deficient endometriosis mouse models during long-time culture.** *J Reprod Immunol*, 106: 50–57
9. Zaun G, Zahedi Y, Maderwald S, Orzada S, Pütter C, Scherag A, Winterhager E, Ladd ME, Grümmer R: (2014) **Repetitive exposure of mice to strong static magnetic fields in utero does not impair fertility in adulthood but may affect placental weight of offspring.** *J Magn Reson Imaging* 39(3):683-690.
10. Zahedi Y, Zaun G, Maderwald S, Orzada S, Pütter C, Scherag A, Winterhager E, Ladd ME, Grümmer R: (2014) **Impact of repetitive exposure to strong static magnetic fields on pregnancy and embryonic development of mice.** *J Magn Reson Imaging* 39(3):691-699.
11. Grümmer, R. (2013) **Translational animal models to study endometriosis-associated infertility.** *Semin Reprod Med* 31:125–132.

12. Petersen R, Eggert A, Grümmer R, Schara U, Sauerwein W (2012)
The mentoring of women for medical career development.
International Journal of Mentoring and Coaching in Education 1(2): 155-164.
13. Hoyer C, Vogt MA, Zaun G, Zahedi Y, Maderwald S, Ladd ME, Winterhager E, Grümmer R, Gass P: (2012)
Repetitive exposure to a 7 Tesla static magnetic field of mice *in utero* does not cause alterations in basal emotional and cognitive behavior in adulthood.
Reproductive Toxicology 34(1):86-92.
14. Sood A, Salih S, Roh D, Lacharme-Lora L, Parry M, Hardiman B, Keehan R, Grummer R, et al. (2011)
Signalling of DNA damage and cytokines across cell barriers exposed to nanoparticles depends on barrier thickness.
Nature Nanotechnology 6(12):824-833.
15. Vallejo G, Mestre-Citrinovitz AC, Mönckedieck V, Grümmer R, Winterhager E, Saragüeta P. (2011)
Ovarian steroid receptors and activated MAPK in the regional decidualization in rats.
Biol Reprod. 84(5):1063-71.
16. Grümmer R, Winterhager E (2011)
Endometrial Connexins: Blastocyst-mediated Induction as an Inflammatory Response?
J Reprod. Immunol. 90:9-13.
17. Bittner AK, Horsthemke B, Winterhager E, Grümmer R (2011)
Hormone-induced delayed ovulation affects early embryonic development.
Fertil. Steril. 95(7):2390-4.
18. Gruemmer R, Maderwald S, Winterhager E, Hauth E. (2010)
Screening for embryonic loss during in utero development of mice with a human 1.5 Tesla clinical MRI scanner.
J Magn Reson Imaging. 32(5):1158-65.
19. Mönckedieck V, Sannecke C, Husen B, Kumbartski M, Kimmig R, Tötsch M, Winterhager E, Grümmer R (2009)
Progesterins inhibit expression of MMPs and of angiogenic factors in human ectopic endometrial lesions in a mouse model.
Mol Hum Reprod. Aug 11. 15:633-643.
20. Winterhager E, Grummer R, Mavrogianis PA, Jones CJ, Hastings JM, Fazleabas AT (2009)
Connexin expression pattern in the endometrium of baboons is influenced by hormonal changes and the presence of endometriotic lesions.
Mol Hum Reprod. 2009 Aug 6. 15:645-652.
21. Bruegmann E, Gruemmer R, Neulen J, Motejlek K (2009)
Regulation of soluble vascular endothelial growth factor receptor 1 secretion from human endothelial cells by tissue inhibitor of metalloproteinase1.
Mol Hum Reprod. Jul 7. 15:749-756.
22. Fechner S, Husen B, Thole H, Schmidt M, Gashaw I, Kimmig R, Winterhager E, Grümmer R (2007)
Expression and regulation of estrogen metabolizing enzymes in ectopic human endometrial tissue.
Fertil Steril. Oct;88(4 Suppl):1029-38.
23. Mittag J, Winterhager E, Bauer K, Grümmer R (2007)
Congenital Hypothyroid Female Pax8-Deficient Mice Are Infertile Despite Thyroid

Hormone Replacement Therapy.

Endocrinology, 148(2):719-725.

24. Grümmer R (2006)
Animal models in endometriosis research.
Hum. Reprod. Update 12 (5):641-649
25. Motejlek K, Palluch F, Neulen J, Grümmer R (2006)
Smoking impairs angiogenesis during maturation of human oocytes.
Fertil. Steril. 86: 186-191.
26. Grümmer R, Motejlek K, Berghaus D, Weich H, Neulen J (2005)
Regulation of soluble vascular endothelial growth factor receptor (sFlt-1/sVEGFR-1) expression and release in endothelial cells by human follicular fluid and granulosa cells.
Reprod. Biol. Endocrinol. 3:57-64
27. Groothuis PG, Nap AW, Winterhager E, Grümmer R (2005)
Vascular development in endometriosis.
Angiogenesis 7: 1-10
28. Gashaw I, Grümmer R, Klein-Hitpass L, Dushaj O, Bergmann M, Brehm R, Grobholz R, Neuvians T, Schmid KW, Ostau C, Winterhager E(2005)
Gene signatures of testicular seminoma with emphasis on ETV4 expression.
Cell. Mol. Life Sci. 62:2359-2368
29. Grümmer R, Klein-Hitpaß L, Neulen J (2005)
Regulation of gene expression in endothelial cells: the role of human follicular fluid .
J. Mol. Endocrinol. 34:37-46
30. Grümmer R, Hewitt S.W., Traub O, Korach K.S., Winterhager E (2004)
Different Regulatory Pathways of Endometrial Connexin Expression: Pre-implantation Hormonal Mediated Pathway versus Embryo Implantation Initiated Pathway.
Biol. Reprod. 71: 273-281
31. Maass K, Ghanem A, Kim JS, Saathoff M, Urschel S, Kirfel G, Grümmer R, Kretz M, Lewalter T, Tiemann K, Winterhager E, Herzog V, Willecke K, (2004)
Defective Epidermal Barrier in Neonatal Mice Lacking the C-Terminal Region of Connexin43.
Mol Biol Cell. 15: 4597-4608
32. Heikaus S, Winterhager E, Traub O, Grümmer R (2002)
Responsiveness of endometrial genes Connexin26, Connexin43, C3 and clusterin to primary estrogen, selective estrogen receptor modulators, phyto- and xenoestrogens.
J. Mol. Endocrinol. 29: 239-249.
33. Houghton FD, Barr KJ, Walter G, Gabriel HD, Grümmer R, Traub O, Leese HJ, Winterhager E, Kidder GM. (2002)
Functional significance of gap junctional coupling in preimplantation development.
Biol. Reprod. 66, 1403-1412.
34. Regidor PA, Engel K, Regidor M, Grümmer R, Traub O, Winterhager E, Schindler AE (2001)
Expression of the gap junction connexins Cx43, Cx45 and Cx26 in human uterine leiomyomata.
Gynecol. Endocrinol. 15: 113-122.
35. Gramsch B, Gabriel HD, Wiemann M, Grümmer R, Winterhager E, Bingmann D, Schirrmacher K. (2001)
Enhancement of connexin43 expression increases proliferation and differentiation of an

- osteoblast-like cell line.**
Exp. Cell Res. 264: 397-407.
36. Grümmer R, Schwarzer F, Balczyk K, Hess-Stumpp H, Regidor PA, Schindler AE, Winterhager E. (2001)
Peritoneal endometriosis: validation of an in-vivo model.
Human Reproduction 16: 1736-1743.
 37. Winterhager E, Kaufmann P, Grümmer R (2000)
Cell-cell-communication during placental development and possible implications for trophoblast proliferation and differentiation.
Placenta 21 (Suppl. 14, Troph. Res.): S61-S68.
 38. Mayer WG, Hemberger M, Frank HG, Grümmer R, Winterhager E, Kaufmann P, Fundele R (2000)
Expression of the imprinted genes MEST/Mest in human and murine placenta suggests a role in angiogenesis.
Dev. Dynamics, 217: 1-10.
 39. Winterhager E, von Ostau C, Gerke M, Grümmer R, Traub O, Kaufmann P (1999)
Connexin expression patterns in human trophoblast cells during placental development.
Placenta 20, 627-638
 40. Grümmer R, Donner A, Winterhager E (1999)
Characteristic growth of human choriocarcinoma in nude mice.
Placenta 20: 547-553.
 41. Grümmer R, Traub O, Winterhager E (1999)
Gap junction connexin genes cx26 and cx43 are differentially regulated by ovarian steroid hormones in rat endometrium.
Endocrinology 140: 2509-2516.
 42. Hellmann P, Grümmer R, Schirmacher K, Rook M, Traub O, Winterhager E (1999)
Transfection with different connexin genes alters growth and differentiation of human choriocarcinoma cells.
Exp. Cell Res. 246: 480-490.
 43. Lautermann J, ten Cate WJF, Altenhoff P, Grümmer R, Traub O, Jahnke K, Winterhager E (1998)
Expression of the gap-junction connexins 26 and 30 in the rat cochlea.
Cell Tissue Res. 294: 415-420.
 44. Grümmer R, Winterhager E (1998)
Regulation of gap junction connexins in the endometrium during early pregnancy.
Cell Tissue Res. 293: 189-194.
 45. Winterhager E, Reuss B, Hellmann P, Spray DC, Grümmer R (1996)
Gap junction and tissue invasion: A comparison of tumorigenesis and pregnancy.
Clin. Exp. Pharmacol. Physiol. 23: 1058-1061.
 46. Grümmer R, Hellmann P, Traub O, Soares MJ, Winterhager E (1996)
Regulation of connexin31 gene expression upon retinoic acid treatment in rat choriocarcinoma cells.
Exp. Cell Res. 227: 23-32.
 47. Antoskiewicz B, Müller G, Grümmer R, Winterhager E (1996)
Induction of connexin32 expression by potential embryonic signals in rabbit uterine epithelium.
Early Pregnancy: Biology and Medicine 2: 253-263.

48. Grümmer R, Reuss B, Winterhager E (1996)
Expression pattern of different gap junction connexins is related to embryo implantation.
Int. J. Dev. Biol. 40: 361-367.
49. Reuss B, Hellmann P, Dahl E, Traub O, Butterweck A, Grümmer R, Winterhager E (1996)
Connexins and E-cadherin are differentially expressed during trophoblast invasion and placenta differentiation in the rat.
Dev. Dynamics 205: 172-182.
50. Hohn HP, Grümmer R, Boßerhoff S, Graf-Lingnau S, Reuss B, Denker HW (1996)
The role of matrix contact and of cell-cell interactions in choriocarcinoma cell differentiation.
Eur. J. Cell Biol. 69: 76-85.
51. Jahn E, Classen-Linke I, Kusche M, Beier HM, Traub O, Grümmer R, Winterhager E (1995)
Expression of gap junction connexins in the human endometrium throughout the menstrual cycle.
Human Reprod. 10: 2666-2670.
52. Grümmer R, Chwalisz K, Mulholland J, Traub O, Winterhager E (1994)
Regulation of connexin26 and connexin43 expression in rat endometrium by ovarian steroid hormones.
Biol. Reprod. 51: 1109-1116.
53. Grümmer R Hohn HP, Mareel MM, Denker HW (1994)
Adhesion and invasion of three human choriocarcinoma cell lines into human endometrium in a three-dimensional organ culture system.
Placenta 15: 411-429.
54. Winterhager E, Grümmer R, Jahn E, Willecke K, Traub O (1993)
Spatial and temporal expression of connexin26 and-43 in rat endometrium during trophoblast invasion.
Dev. Biol. 157: 399-409.
55. Grümmer R, Hohn HP, Denker HW (1990)
Choriocarcinoma cell spheroids: an in vitro modell for the human trophoblast.
Troph. Res. 4: 97-111.