

Stanford



Aaron Hsueh

Professor of Obstetrics and Gynecology (Reproductive and Stem Cell Biology),
Emeritus

Obstetrics & Gynecology - Reproductive Biology

Bio

ACADEMIC APPOINTMENTS

- Emeritus Faculty, Acad Council, Obstetrics & Gynecology - Reproductive Biology
- Member, Bio-X
- Member, Maternal & Child Health Research Institute (MCHRI)

LINKS

- Hsueh Lab Home Page: <http://reprobio.stanford.edu/hsueh/>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

We have been investigating the molecular and cellular mechanisms underlying the hormonal regulation of ovarian follicle growth and differentiation. By expressing recombinant FSH, LH and hCG and producing their mutants, we have designed long-acting agonists as well as deglycosylated antagonists of gonadotropins. We have also cloned human LH and FSH receptors and the expression of these proteins allows analysis of gonadotropin bioactivity in vitro. The extracellular ligand-binding domain of these receptors have been generated and found to be functional antagonists. Clinical syndromes of gain-of-function mutations for the LH receptor have been found in patients with familial male precocious puberty whereas loss-of-function mutations have been found to be the basis of Leydig cell hypoplasia. We are using bioinformatic tools and DNA microarray to analyze polypeptide hormones and their receptors in terms of ligand-receptor matching and paracrine interactions.

Publications

PUBLICATIONS

- **Fertility rescue and ovarian follicle growth promotion by bone marrow stem cell infusion** *FERTILITY AND STERILITY*
Herraiz, S., Buigues, A., Diaz-Garcia, C., Romeu, M., Martinez, S., Gomez-Segui, I., Simon, C., Hsueh, A. J., Pellicer, A.
2018; 109 (5): 908+
- **Imaging the ovary** *REPRODUCTIVE BIOMEDICINE ONLINE*
Feng, Y., Tamadon, A., Hsueh, A. W.
2018; 36 (5): 584-93
- **3D NIR-II Molecular Imaging Distinguishes Targeted Organs with High-Performance NIR-II Bioconjugates** *ADVANCED MATERIALS*
Zhu, S., Herraiz, S., Yue, J., Zhang, M., Wan, H., Yang, Q., Ma, Z., Wang, Y., He, J., Antaris, A. L., Zhong, Y., Diao, S., Feng, et al
2018; 30 (13): e1705799
- **Fertility Rescue by Bone Marrow Derived Stem Cell Infusion.**
Buigues, A., Herraiz, S., Marchante, M., Hsueh, A. J., Pellicer, A.

SAGE PUBLICATIONS INC.2018: 107A

- **Epitope-specific monoclonal antibodies to FSH beta increase bone mass** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Ji, Y., Liu, P., Yuen, T., Haider, S., He, J., Romero, R., Chen, H., Bloch, M., Kim, S., Lizneva, D., Munshi, L., Zhou, C., Lu, et al
2018; 115 (9): 2192–97
- **Gonadotropins and their receptors: co-evolution, genetic variants, receptor imaging, and functional antagonists.** *Biology of reproduction*
Hsueh, A. J., He, J.
2018
- **Three-dimensional Reconstruction of the Vascular Architecture of the Passive CLARITY-cleared Mouse Ovary** *JOVE-JOURNAL OF VISUALIZED EXPERIMENTS*
Hu, W., Tamadon, A., Hsueh, A. W., Feng, Y.
2017
- **intestinal stem-cell self-renewal.** *Nature*
Yan, K. S., Janda, C. Y., Chang, J., Zheng, G. X., Larkin, K. A., Luca, V. C., Chia, L. A., Mah, A. T., Han, A., Terry, J. M., Ootani, A., Roelf, K., Lee, et al
2017; 545 (7653): 238-242
- **Non-equivalence of Wnt and R-spondin ligands during Lgr5(+) intestinal stem-cell self-renewal** *NATURE*
Yan, K. S., Janda, C. Y., Chang, J., Zheng, G. X., Larkin, K. A., Luca, V. C., Chia, L. A., Mah, A. T., Han, A., Terry, J. M., Ootani, A., Roelf, K., Lee, et al
2017; 545 (7653): 238-?
- **Live imaging of follicle stimulating hormone receptors in gonads and bones using near infrared II fluorophore** *CHEMICAL SCIENCE*
Feng, Y., Zhu, S., Antaris, A. L., Chen, H., Xiao, Y., Lu, X., Jiang, L., Diao, S., Yu, K., Wang, Y., Herraiz, S., Yue, J., Hong, et al
2017; 8 (5): 3703-3711
- **Sphingosine-1-phosphate promotes ovarian cancer cell proliferation by disrupting Hippo signaling** *ONCOTARGET*
Fan, Q., Cheng, Y., Chang, H., Deguchi, M., Hsueh, A. J., Leung, P. C.
2017; 8 (16): 27166-27176
- **CLARITY reveals dynamics of ovarian follicular architecture and vasculature in three-dimensions.** *Scientific reports*
Feng, Y., Cui, P., Lu, X., Hsueh, B., Möller Billig, F., Zarnescu Yanez, L., Tomer, R., Boerboom, D., Carmeliet, P., Deisseroth, K., Hsueh, A. J.
2017; 7: 44810-?
- **In Vitro Activation of Follicles and Fresh Tissue Auto-transplantation in Primary Ovarian Insufficiency Patients.** *journal of clinical endocrinology and metabolism*
Zhai, J., Yao, G., Dong, F., Bu, Z., Cheng, Y., Sato, Y., Hu, L., Zhang, Y., Wang, J., Dai, S., Li, J., Sun, J., Hsueh, et al
2016; 101 (11): 4405-4412
- **Activation of dormant follicles: a new treatment for premature ovarian failure?** *CURRENT OPINION IN OBSTETRICS & GYNECOLOGY*
Kawamura, K., Kawamura, N., Hsueh, A. J.
2016; 28 (3): 217-222
- **Apela Regulates Fluid Homeostasis by Binding to the APJ Receptor to Activate Gi Signaling** *JOURNAL OF BIOLOGICAL CHEMISTRY*
Deng, C., Chen, H., Yang, N., Feng, Y., Hsueh, A. J.
2015; 290 (30): 18261-18268
- **Actin polymerization-enhancing drugs promote ovarian follicle growth mediated by the Hippo signaling effector YAP** *FASEB JOURNAL*
Cheng, Y., Feng, Y., Jansson, L., Sato, Y., Deguchi, M., Kawamura, K., Hsueh, A. J.
2015; 29 (6): 2423-2430
- **Intraovarian control of early folliculogenesis.** *Endocrine reviews*
Hsueh, A. J., Kawamura, K., Cheng, Y., Fauser, B. C.
2015; 36 (1): 1-24
- **Promotion of Ovarian Follicle Growth following mTOR Activation: Synergistic Effects of AKT Stimulators.** *PloS one*
Cheng, Y., Kim, J., Li, X. X., Hsueh, A. J.
2015; 10 (2)

- **A Naturally Occurring Lgr4 Splice Variant Encodes a Soluble Antagonist Useful for Demonstrating the Gonadal Roles of Lgr4 in Mammals** *PLOS ONE*
Hsu, P., Wu, F., Kudo, M., Hsiao, C., Hsueh, A. J., Luo, C.
2014; 9 (9)
- **A Single-Nucleotide Polymorphism of Human Neuropeptide S Gene Originated from Europe Shows Decreased Bioactivity** *PLOS ONE*
Deng, C., He, X., Hsueh, A. J.
2013; 8 (12)
- **Hippo signaling disruption and Akt stimulation of ovarian follicles for infertility treatment** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Kawamura, K., Cheng, Y., Suzuki, N., Deguchi, M., Sato, Y., Takae, S., Ho, C., Kawamura, N., Tamura, M., Hashimoto, S., Sugishita, Y., Morimoto, Y., Hosoi, et al
2013; 110 (43): 17474-17479
- **Actin Cytoskeleton Regulates Hippo Signaling** *PLOS ONE*
Reddy, P., Deguchi, M., Cheng, Y., Hsueh, A. J.
2013; 8 (9)
- **Oocyte-derived R-spondin2 promotes ovarian follicle development.** *FASEB journal*
Cheng, Y., Kawamura, K., Takae, S., Deguchi, M., Yang, Q., Kuo, C., Hsueh, A. J.
2013; 27 (6): 2175-2184
- **Multi-functional norrin is a ligand for the LGR4 receptor** *JOURNAL OF CELL SCIENCE*
Deng, C., Reddy, P., Cheng, Y., Luo, C., Hsiao, C., Hsueh, A. J.
2013; 126 (9): 2060-2068
- **A Novel Reproductive Peptide, Phoenixin** *JOURNAL OF NEUROENDOCRINOLOGY*
Yosten, G. L., Lyu, R., Hsueh, A. J., Avsian-Kretchmer, O., Chang, J., TULLOCK, C. W., Dun, S. L., Dun, N., Samson, W. K.
2013; 25 (2): 206-215
- **Evolution of a Potential Hormone Antagonist following Gene Splicing during Primate Evolution.** *PloS one*
Deng, C., Hsueh, A. J.
2013; 8 (5)
- **Promotion of Human Early Embryonic Development and Blastocyst Outgrowth In Vitro Using Autocrine/Paracrine Growth Factors** *PLOS ONE*
Kawamura, K., Chen, Y., Shu, Y., Cheng, Y., Qiao, J., Behr, B., Pera, R. A., Hsueh, A. J.
2012; 7 (11)
- **C-Type Natriuretic Peptide Stimulates Ovarian Follicle Development** *MOLECULAR ENDOCRINOLOGY*
Sato, Y., Cheng, Y., Kawamura, K., Takae, S., Hsueh, A. J.
2012; 26 (7): 1158-1166
- **Ovarian Kaleidoscope Database: Ten Years and Beyond** *BIOLOGY OF REPRODUCTION*
Hsueh, A. J., Rauch, R.
2012; 86 (6)
- **Intraovarian Thrombin and Activated Protein C Signaling System Regulates Steroidogenesis during the Perioovulatory Period** *MOLECULAR ENDOCRINOLOGY*
Cheng, Y., Kawamura, K., Deguchi, M., Takae, S., Mulders, S. M., Hsueh, A. J.
2012; 26 (2): 331-340
- **The Role of Cilostazol, a Phosphodiesterase 3 Inhibitor, on Oocyte Maturation and Subsequent Pregnancy in Mice** *PLOS ONE*
Li, M., Yu, Y., Yan, J., Yan, L., Zhao, Y., Li, R., Liu, P., Hsueh, A. J., Qiao, J.
2012; 7 (1)
- **Pre-ovulatory LH/hCG surge decreases C-type natriuretic peptide secretion by ovarian granulosa cells to promote meiotic resumption of pre-ovulatory oocytes** *HUMAN REPRODUCTION*
Kawamura, K., Cheng, Y., Kawamura, N., Takae, S., Okada, A., Kawagoe, Y., Mulders, S., Terada, Y., Hsueh, A. J.
2011; 26 (11): 3094-3101

- **Oocyte-Expressed Interleukin 7 Suppresses Granulosa Cell Apoptosis and Promotes Oocyte Maturation in Rats** *BIOLOGY OF REPRODUCTION*
Cheng, Y., Yata, A., Klein, C., Cho, J., Deguchi, M., Hsueh, A. J.
2011; 84 (4): 707-714
- **Gonadotrophin-induced paracrine regulation of human oocyte maturation by BDNF and GDNF secreted by granulosa cells** *HUMAN REPRODUCTION*
Zhao, P., Qiao, J., Huang, S., Zhang, Y., Liu, S., Yan, L., Hsueh, A. J., Duan, E.
2011; 26 (3): 695-702
- **Activation of dormant ovarian follicles to generate mature eggs** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Li, J., Kawamura, K., Cheng, Y., Liu, S., Klein, C., Liu, S., Duan, E., Hsueh, A. J.
2010; 107 (22): 10280-10284
- **Genome-wide association study in premature ovarian failure patients suggests ADAMTS19 as a possible candidate gene** *HUMAN REPRODUCTION*
Knauff, E. A., Franke, L., van Es, M. A., Van den Berg, L. H., van der Schouw, Y. T., Laven, J. S., Lambalk, C. B., Hoek, A., Goverde, A. J., Christin-Maitre, S., Hsueh, A. J., Wijmenga, C., Fauser, et al
2009; 24 (9): 2372-2378
- **Autocrine regulation of early embryonic development by the artemin-GFRA3 (GDNF family receptor-alpha 3) signaling system in mice** *FEBS LETTERS*
Li, J., Klein, C., Liang, C., Rauch, R., Kawamura, K., Hsueh, A. J.
2009; 583 (15): 2479-2485
- **The hedgehog-patched signaling pathway and function in the mammalian ovary: a novel role for hedgehog proteins in stimulating proliferation and steroidogenesis of theca cells** *REPRODUCTION*
Spicer, L. J., Sudo, S., Aad, P. Y., Wang, L. S., Chun, S., Ben-Shlomo, I., Klein, C., Hsueh, A. J.
2009; 138 (2): 329-339
- **Kit ligand promotes first polar body extrusion of mouse preovulatory oocytes** *REPRODUCTIVE BIOLOGY AND ENDOCRINOLOGY*
Ye, Y., Kawamura, K., Sasaki, M., Kawamura, N., Groenen, P., Gelpke, M. D., Rauch, R., Hsueh, A. J., Tanaka, T.
2009; 7
- **Paracrine regulation of the resumption of oocyte meiosis by endothelin-1** *DEVELOPMENTAL BIOLOGY*
Kawamura, K., Ye, Y., Liang, C. G., Kawamura, N., Gelpke, M. S., Rauch, R., Tanaka, T., Hsueh, A. J.
2009; 327 (1): 62-70
- **Neuronostatin Encoded by the Somatostatin Gene Regulates Neuronal, Cardiovascular, and Metabolic Functions** *JOURNAL OF BIOLOGICAL CHEMISTRY*
Samson, W. K., Zhang, J. V., Avsian-Kretchmer, O., Cui, K., Yosten, G. L., Klein, C., Lyu, R., Wang, Y. X., Chen, X. Q., Yang, J., Price, C. J., Hoyda, T. D., Ferguson, et al
2008; 283 (46): 31949-31959
- **Hormonal regulation of proprotein convertase subtilisin/kexin type 5 expression during ovarian follicle development in the rat** *MOLECULAR AND CELLULAR ENDOCRINOLOGY*
Bae, J., Park, H., Seo, Y., Roh, J., Hsueh, A. J., Chun, S.
2008; 289 (1-2): 29-37
- **Obestatin induction of early-response gene expression in gastrointestinal and adipose tissues and the mediatory role of G protein-coupled receptor, GPR39** *MOLECULAR ENDOCRINOLOGY*
Zhang, J. V., Jahr, H., Luo, C., Klein, C., Van Kolen, K., Donck, L. V., De, A., Baart, E., Li, J., Moechars, D., Hsueh, A. J.
2008; 22 (6): 1464-1475
- **Gonadotropin stimulation of ovarian fractalkine expression and fractalkine augmentation of progesterone biosynthesis by luteinizing granulosa cells** *ENDOCRINOLOGY*
Zhao, P., De, A., Hu, Z., Li, J., Mulders, S. M., Gelpke, M. D., Duan, E., Hsueh, A. J.
2008; 149 (6): 2782-2789
- **Completion of Meiosis I of preovulatory oocytes and facilitation of preimplantation embryo development by glial cell line-derived neurotrophic factor** *DEVELOPMENTAL BIOLOGY*
Kawamura, K., Ye, Y., Kawamura, N., Jing, L., Groenen, P., Gelpke, M. S., Rauch, R., Hsueh, A. J., Tanaka, T.
2008; 315 (1): 189-202

- **Growth differentiation factor 9 (GDF9) stimulates proliferation and inhibits steroidogenesis by bovine theca cells: Influence of follicle size on responses to GDF9** *BIOLOGY OF REPRODUCTION*
Spicer, L. J., Aad, P. Y., Allen, D. T., Mazerbourg, S., Payne, A. H., Hsueh, A. J.
2008; 78 (2): 243-253
- **Regulation of preimplantation embryo development by brain-derived neurotrophic factor** *DEVELOPMENTAL BIOLOGY*
Kawamura, K., Kawamura, N., Fukuda, J., Kumagai, J., Hsueh, A. J., Tanaka, T.
2007; 311 (1): 147-158
- **Matching receptome genes with their ligands for surveying paracrine/autocrine signaling systems** *MOLECULAR ENDOCRINOLOGY*
Ben-Shlomo, I., Rauch, R., Avsian-Kretchmer, O., Hsueh, A. J.
2007; 21 (8): 2009-2014
- **Characterization of novel splice variants of LGR7 and LGR8 reveals that receptor signaling is mediated by their unique low density lipoprotein class A modules** *JOURNAL OF BIOLOGICAL CHEMISTRY*
Scott, D. J., Layfield, S., Yan, Y., Sudo, S., Hsueh, A. J., Tregear, G. W., Bathgate, R. A.
2006; 281 (46): 34942-34954
- **Intraovarian tumor necrosis factor-related weak inducer of apoptosis/fibroblast growth factor-inducible-14 ligand-receptor system limits ovarian preovulatory follicles from excessive luteinization** *MOLECULAR ENDOCRINOLOGY*
De, A., Park, J., Kawamura, K., Chen, R., Klein, C., Rauch, R., Mulders, S. M., Gelpke, M. D., Hsueh, A. J.
2006; 20 (10): 2528-2538
- **Genomic analyses facilitate identification of receptors and signalling pathways for growth differentiation factor 9 and related orphan bone morphogenetic protein/growth differentiation factor ligands** *HUMAN REPRODUCTION UPDATE*
Mazerbourg, S., Hsueh, A. J.
2006; 12 (4): 373-383
- **Growth differentiation factor-9 has divergent effects on proliferation and steroidogenesis of bovine granulosa cells** *JOURNAL OF ENDOCRINOLOGY*
Spicer, L. J., Aad, P. Y., Allen, D., Mazerbourg, S., Hsueh, A. J.
2006; 189 (2): 329-339
- **Genomic analyses of the evolution of LGR genes.** *Chang Gung medical journal*
Luo, C., Hsueh, A. J.
2006; 29 (1): 2-8
- **Hormonology: a genomic perspective on hormonal research** *JOURNAL OF ENDOCRINOLOGY*
Hsueh, A. J., Bouchard, P., Ben-Shlomo, I.
2005; 187 (3): 333-338
- **Obestatin, a peptide encoded by the ghrelin gene, opposes ghrelin's effects on food intake** *SCIENCE*
Zhang, J. V., Ren, P. G., Avsian-Kretchmer, O., Luo, C. W., Rauch, R., Klein, C., Hsueh, A. J.
2005; 310 (5750): 996-999
- **Identification of receptors and signaling pathways for orphan bone morphogenetic protein/growth differentiation factor ligands based on genomic analyses** *JOURNAL OF BIOLOGICAL CHEMISTRY*
Mazerbourg, S., Sangkuhl, K., Luo, C. W., Sudo, S., Klein, C., Hsueh, A. J.
2005; 280 (37): 32122-32132
- **Heterodimeric fly glycoprotein hormone-alpha 2 (GPA2) and glycoprotein hormone-beta 5 (GPB5) activate fly leucine-rich repeat-containing G protein-coupled receptor-1 (DLGR1) and stimulation of human thyrotropin receptors by chimeric fly GPA2 and human GPB5** *ENDOCRINOLOGY*
Sudo, S., Kuwabara, Y., Park, J. I., Hsu, S. Y., Hsueh, A. J.
2005; 146 (8): 3596-3604
- **Ovarian brain-derived neurotrophic factor (BDNF) promotes the development of oocytes into preimplantation embryos** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Kawamura, K., Kawamura, N., Mulders, S. M., Gelpke, M. D., Hsueh, A. J.
2005; 102 (26): 9206-9211
- **Three's company: Two or more unrelated receptors pair with the same ligand** *MOLECULAR ENDOCRINOLOGY*
Ben-Shlomo, I., Hsueh, A. J.

2005; 19 (5): 1097-1109

- **Hypertrophic effects of urocortin homologous peptides are mediated via activation of the Akt pathway** *BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS*
Chanalaris, A., Lawrence, K. M., Townsend, P. A., Davidson, S., Jashmidi, Y., Stephanou, A., Knight, R. D., Hsu, S. Y., Hsueh, A. J., Latchman, D. S.
2005; 328 (2): 442-448
- **Bursicon, the insect cuticle-hardening hormone, is a heterodimeric cystine knot protein that activates G protein-coupled receptor LGR2** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Luo, C. W., Dewey, E. M., Sudo, S., Ewer, J., Hsu, S. Y., Honegger, H. W., Hsueh, A. J.
2005; 102 (8): 2820-2825
- **FOXL2 is a transcriptional repressor of enzymes involved in the steroidogenic cascade.** *52nd Annual Meeting of the Society-for-Gynecologic-Investigation*
Pisarska, M. D., Kao, L., Bae, J., Hsueh, A. J.
ELSEVIER SCIENCE INC.2005: 296A-297A
- **Relaxin research in the postgenomic era** *4th International Conference on Relaxin and Related Peptides*
Kawamura, K., Sudo, S., Kumagai, J., Pisarska, M., Hsu, S. Y., Bathgate, R., Wade, J., Hsueh, A. J.
NEW YORK ACAD SCIENCES.2005: 1-7
- **Adenoviral gene transfer allows Smad-responsive gene promoter analyses and delineation of type I receptor usage of transforming growth factor-beta family ligands in cultured human granulosa luteal cells** *JOURNAL OF CLINICAL ENDOCRINOLOGY & METABOLISM*
Kaivo-Oja, N., Mottershead, D. G., Mazerbourg, S., Myllymaa, S., Duprat, S., Gilchrist, R. B., Groome, N. P., Hsueh, A. J., Ritvos, O.
2005; 90 (1): 271-278
- **Identification of a stanniocalcin paralog, stanniocalcin-2, in fish and the paracrine actions of stanniocalcin-2 in the mammalian ovary** *ENDOCRINOLOGY*
Luo, C. W., Pisarska, M. D., Hsueh, A. J.
2005; 146 (1): 469-476
- **Neonatal lethality of LGR5 null mice is associated with ankyloglossia and gastrointestinal distension** *MOLECULAR AND CELLULAR BIOLOGY*
Morita, H., Mazerbourg, S., Bouley, D. M., Luo, C. W., Kawamura, K., Kuwabara, Y., Baribault, H., Tian, H., Hsueh, A. J.
2004; 24 (22): 9736-9743
- **Leucine-rich repeat-containing, G protein-coupled receptor 4 null mice exhibit intrauterine growth retardation associated with embryonic and perinatal lethality** *MOLECULAR ENDOCRINOLOGY*
Mazerbourg, S., Bouley, D. M., Sudo, S., Klein, C. A., Zhang, J. V., Kawamura, K., Goodrich, L. V., Rayburn, H., Tessier-Lavigne, M., Hsueh, A. J.
2004; 18 (9): 2241-2254
- **Paracrine regulation of ovarian granulosa cell differentiation by stanniocalcin (STC) 1: Mediation through specific STC1 receptors** *MOLECULAR ENDOCRINOLOGY*
Luo, C. W., Kawamura, K., Klein, C., Hsueh, A. J.
2004; 18 (8): 2085-2096
- **Forkhead L2 is expressed in the ovary and represses the promoter activity of the steroidogenic acute regulatory gene** *ENDOCRINOLOGY*
Pisarska, M. D., Bae, J., Klein, C., Hsueh, A. J.
2004; 145 (7): 3424-3433
- **Protein related to DAN and cerberus is a bone morphogenetic protein antagonist that participates in ovarian paracrine regulation** *JOURNAL OF BIOLOGICAL CHEMISTRY*
Sudo, S., Avsian-Kretchmer, O., Wang, L. S., Hsueh, A. J.
2004; 279 (22): 23134-23141
- **Paracrine regulation of mammalian oocyte maturation and male germ cell survival** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Kawamura, K., Kumagai, J., Sudo, S., Chun, S. Y., Pisarska, M., Morita, H., Toppari, J., Fu, P., Wade, J. D., Bathgate, R. A., Hsueh, A. J.
2004; 101 (19): 7323-7328
- **Growth differentiation factor-9 signaling is mediated by the type I receptor, activin receptor-like kinase 5** *MOLECULAR ENDOCRINOLOGY*
Mazerbourg, S., Klein, C., Roh, J., Kaivo-Oja, N., Mottershead, D. G., Korchynskiy, O., Ritvos, O., Hsueh, A. J.
2004; 18 (3): 653-665

- **Potential mechanism of FOXL2 mutations in premature ovarian failure.** *51st Annual Meeting of the Society-for-Gynecologic-Investigation*
Pisarska, M. D., Bae, J., Hsueh, A. J.
ELSEVIER SCIENCE INC.2004: 313A–313A
- **Comparative genomic analysis of the eight-membered ring cysteine knot-containing bone morphogenetic protein antagonists** *MOLECULAR ENDOCRINOLOGY*
Avsian-Kretchmer, O., Hsueh, A. J.
2004; 18 (1): 1-12
- **Paracrine regulation of mammalian oocyte maturation and male germ cell survival.** *37th Annual Meeting of the Society-for-the-Study-of-Reproduction*
Kawamura, K., Kumagai, J., Sudo, S., Chun, S. Y., Fu, P., Wade, J. D., Bathgate, R. A., Hsueh, A. J.
SOC STUDY REPRODUCTION.2004: 187–187
- **Lack of LGR8 gene mutation in Finnish patients with a family history of cryptorchidism.** *Reproductive biomedicine online*
Roh, J., Virtanen, H., Kumagai, J., Sudo, S., Kaleva, M., Toppari, J., Hsueh, A. J.
2003; 7 (4): 400-406
- **Protective effects of the urocortin homologues stresscopin (SCP) and stresscopin-related peptide (SRP) against hypoxia/reoxygenation injury in rat neonatal cardiomyocytes** *JOURNAL OF MOLECULAR AND CELLULAR CARDIOLOGY*
Chanalaris, A., Lawrence, K. M., Stephanou, A., Knight, R. D., Hsu, S. Y., Hsueh, A. J., Latchman, D. S.
2003; 35 (10): 1295-1305
- **Expression and functional analysis of forkhead L2 (FOXL2), the gene involved in premature ovarian failure.** *59th Annual Meeting of the American-Society-for-Reproductive-Medicine*
Pisarska, M. D., Bae, J., Hsueh, A. J.
ELSEVIER SCIENCE INC.2003: S28–S28
- **Signaling receptome: a genomic and evolutionary perspective of plasma membrane receptors involved in signal transduction.** *Science's STKE : signal transduction knowledge environment*
Ben-Shlomo, I., Yu Hsu, S., Rauch, R., Kowalski, H. W., Hsueh, A. J.
2003; 2003 (187): RE9-?
- **Activation of the luteinizing hormone receptor in the extracellular domain** *5th International Symposium on Ovarian Function*
Nakabayashi, K., Kudo, M., Hsueh, A. J., Maruo, T.
ELSEVIER IRELAND LTD.2003: 139–44
- **Relaxin signaling in reproductive tissues** *5th International Symposium on Ovarian Function*
Hsu, S. Y., Nakabayashi, K., NISHI, S., Kumagai, J., Kudo, M., Bathgate, R. A., Sherwood, O. D., Hsueh, A. J.
ELSEVIER IRELAND LTD.2003: 165–70
- **Growth differentiation factor-9 signaling in the ovary** *5th International Symposium on Ovarian Function*
Mazerbourg, S., Hsueh, A. J.
ELSEVIER IRELAND LTD.2003: 31–36
- **H3 relaxin is a specific ligand for LGR7 and activates the receptor by interacting with both the ectodomain and the exoloop 2** *JOURNAL OF BIOLOGICAL CHEMISTRY*
Sudo, S., Kumagai, J., NISHI, S., Layfield, S., Ferraro, T., Bathgate, R. A., Hsueh, A. J.
2003; 278 (10): 7855-7862
- **Tankyrase 1 interacts with Mcl-1 proteins and inhibits their regulation of apoptosis** *JOURNAL OF BIOLOGICAL CHEMISTRY*
Bae, J. Y., Donigian, J. R., Hsueh, A. J.
2003; 278 (7): 5195-5204
- **Growth differentiation factor-9 induces Smad2 activation and inhibin B production in cultured human granulosa-luteal cells** *JOURNAL OF CLINICAL ENDOCRINOLOGY & METABOLISM*
Kaivo-Oja, N., Bondestam, J., Kamarainen, M., Koskimies, J., Vitt, U., Cranfield, M., Vuojolainen, K., Kallio, J. P., Olkkonen, V. M., Hayashi, M., Moustakas, A., Groome, N. P., ten Dijke, et al
2003; 88 (2): 755-762
- **Growth differentiation factor-9 stimulates inhibin production and activates Smad2 in cultured rat granulosa cells** *ENDOCRINOLOGY*
Roh, J. S., Bondestam, J., Mazerbourg, S., Kaivo-Oja, N., Groome, N., Ritvos, O., Hsueh, A. J.

2003; 144 (1): 172-178

- **Genetic and functional analyses of polymorphisms in the human FSH receptor gene** *MOLECULAR HUMAN REPRODUCTION*
Sudo, S., Kudo, M., Wada, S., Saito, O., Hsueh, A. J., Fujimoto, S.
2002; 8 (10): 893-899
- **INSL3/Leydig insulin-like peptide activates the LGR8 receptor important in testis descent** *JOURNAL OF BIOLOGICAL CHEMISTRY*
Kumagai, J., Hsu, S. Y., Matsumi, H., Roh, J. S., Fu, P., Wade, J. D., Bathgate, R. A., Hsueh, A. J.
2002; 277 (35): 31283-31286
- **Bone morphogenetic protein receptor type II is a receptor for growth differentiation factor-9** *BIOLOGY OF REPRODUCTION*
Vitt, U. A., Mazerbourg, S., Klein, C., Hsueh, A. J.
2002; 67 (2): 473-480
- **Perspective: The ovarian kaleidoscope database - II. Functional genomic analysis of an organ-specific database** *ENDOCRINOLOGY*
Ben-Shlomo, I., Vitt, U. A., Hsueh, A. J.
2002; 143 (6): 2041-2044
- **Hormonal genomics** *ENDOCRINE REVIEWS*
Leo, C. P., Hsu, S. Y., Hsueh, A. J.
2002; 23 (3): 369-381
- **Thyrostimulin, a heterodimer of two new human glycoprotein hormone subunits, activates the thyroid-stimulating hormone receptor** *JOURNAL OF CLINICAL INVESTIGATION*
Nakabayashi, K., Matsumi, H., Bhalla, A., Bae, J., Mosselman, S., Hsu, S. Y., Hsueh, A. J.
2002; 109 (11): 1445-1452
- **Intracellular calcium mobilization in response to the activation of human wild-type and chimeric gonadotropin receptors** *ENDOCRINOLOGY*
Lee, P. S., Buchan, A. M., Hsueh, A. J., Yuen, B. H., Leung, P. C.
2002; 143 (5): 1732-1740
- **The ectodomain of the luteinizing hormone receptor interacts with exoloop 2 to constrain the transmembrane region - Studies using chimeric human and fly receptors** *JOURNAL OF BIOLOGICAL CHEMISTRY*
NISHI, S., Nakabayashi, K., Kobilka, B., Hsueh, A. J.
2002; 277 (6): 3958-3964
- **Activation of orphan receptors by the hormone relaxin** *SCIENCE*
Hsu, S. Y., Nakabayashi, K., NISHI, S., Kumagai, J., Kudo, M., Sherwood, O. D., Hsueh, A. J.
2002; 295 (5555): 671-674
- **Stage-dependent role of growth differentiation factor-9 in ovarian follicle development** *International Conference on Reproductive Competence: Pathophysiology and Therapeutic Intervention*
Vitt, U. A., Hsueh, A. J.
ELSEVIER IRELAND LTD.2002: 211-17
- **Impact of the genomic revolution on reproductive sciences.**
Hsueh, A. J., Hsu, S. Y., Nakabayashi, K., Vitt, U., Ben-Shlomo, I., Leo, C.
SOC STUDY REPRODUCTION.2002: 71-72
- **Growth differentiation factor-9 promotes the growth, development, and survival of human ovarian follicles in organ culture** *JOURNAL OF CLINICAL ENDOCRINOLOGY & METABOLISM*
Hreinsson, J. G., Scott, J. E., Rasmussen, C., Swahn, M. L., Hsueh, A. J., Hovatta, O.
2002; 87 (1): 316-321
- **Ovarian follicle development: the role of oocyte GDF-9 and GDF-9B/BMP-15** *17th World Congress on Fertility and Sterility*
Hsueh, A. J., Roh, J. S.
PARTHENON PUBLISHING GROUP LTD.2002: 331-336
- **The impact of the genomic revolution on gynecological endocrinology** *8th World Congress of Gynecological Endocrinology*
Wasson, K. M., Hsueh, A. J.
PARTHENON PUBLISHING GROUP LTD.2002: 1-4

- **Impairment of spermatogenesis in transgenic mice with selective overexpression of Bcl-2 in the somatic cells of the testis** *JOURNAL OF ANDROLOGY*
Yamamoto, C. M., Hikim, A. P., Lue, Y. H., Portugal, A. M., Guo, T. B., Hsu, S. Y., Salameh, W. A., Wang, C., Hsueh, A. J., Swerdloff, R. S.
2001; 22 (6): 981-991
- **Stage-dependent role of growth differentiation factor-9 in ovarian follicle development** *MOLECULAR AND CELLULAR ENDOCRINOLOGY*
Vitt, U. A., Hsueh, A. J.
2001; 183 (1-2): 171-177
- **Underphosphorylated BAD interacts with diverse antiapoptotic Bcl-2 family proteins to regulate apoptosis** *APOPTOSIS*
Bae, J., Hsu, S. Y., Leo, C. P., Zell, K., Hsueh, A. J.
2001; 6 (5): 319-330
- **DNA array analysis of changes in preovulatory gene expression in the rat ovary** *BIOLOGY OF REPRODUCTION*
Leo, C. P., Pisarska, M. D., Hsueh, A. J.
2001; 65 (1): 269-276
- **Expression of messenger ribonucleic acid for the antiapoptosis gene p11 in the rat ovary: Gonadotropin stimulation in granulosa cells of preovulatory follicles** *ENDOCRINOLOGY*
Chun, S. Y., Bae, H. W., Kim, W. J., Park, J. H., Hsu, S. Y., Hsueh, A. J.
2001; 142 (6): 2311-2317
- **Human stresscopin and stresscopin-related peptide are selective ligands for the type 2 corticotropin-releasing hormone receptor** *NATURE MEDICINE*
Hsu, S. Y., Hsueh, A. J.
2001; 7 (5): 605-611
- **Evolution and classification of cystine knot-containing hormones and related extracellular signaling molecules** *MOLECULAR ENDOCRINOLOGY*
Vitt, U. A., Hsu, S. Y., Hsueh, A. J.
2001; 15 (5): 681-694
- **Mutations in the follicle-stimulating hormone receptor and familial dizygotic twinning** *LANCET*
Montgomery, G. W., Duffy, D. L., Hall, J., Kudo, M., Martin, N. G., Hsueh, A. J.
2001; 357 (9258): 773-774
- **Mullerian inhibitory substance induces growth of rat preantral ovarian follicles** *BIOLOGY OF REPRODUCTION*
Mcgee, E. A., Smith, R., Spears, N., Nachtigal, M. W., Ingraham, H., Hsueh, A. J.
2001; 64 (1): 293-298
- **Impact of genomic revolution on reproductive medicine** *53rd Annual Congress of the Japan-Society-of-Obstetrics-and-Gynecology*
Hsueh, A. J., Pisarska, M. D.
MEDIMOND S R L.2001: 191-199
- **Ovarian gene database** *Workshop on the Ovary - Genesis, Function, and Failure*
Wasson, K. M., Hsueh, A. J.
ELSEVIER SCIENCE INC.2001: S37-S39
- **Characterization of two fly LGR (leucine-rich repeat-containing, G protein-coupled receptor) proteins homologous to vertebrate glycoprotein hormone receptors: Constitutive activation of wild-type fly LGR1 but not LGR2 in transfected mammalian cells** *ENDOCRINOLOGY*
NISHI, S., Hsu, S. Y., Zell, K., Hsueh, A. J.
2000; 141 (11): 4081-4090
- **In vivo treatment with GDF-9 stimulates primordial and primary follicle progression and theca cell marker CYP17 in ovaries of immature rats** *ENDOCRINOLOGY*
Vitt, U. A., Mcgee, E. A., Hayashi, M., Hsueh, A. J.
2000; 141 (10): 3814-3820
- **Growth differentiation factor-9 stimulates rat theca-interstitial cell androgen biosynthesis** *BIOLOGY OF REPRODUCTION*
Solovyeva, E. V., Hayashi, M., Margi, K., Barkats, C., Klein, C., Amsterdam, A., Hsueh, A. J., Tsafirri, A.
2000; 63 (4): 1214-1218
- **Activation of the luteinizing hormone receptor following substitution of Ser-277 with selective hydrophobic residues in the ectodomain hinge region** *JOURNAL OF BIOLOGICAL CHEMISTRY*

- Nakabayashi, K., Kudo, M., Kobilka, B., Hsueh, A. W.
2000; 275 (39): 30264-30271
- **The Ovarian Kaleidoscope database: An online resource for the ovarian research community** *ENDOCRINOLOGY*
Leo, C. P., Vitt, U. A., Hsueh, A. J.
2000; 141 (9): 3052-3054
 - **Dizygotic twinning is not linked to variation at the alpha-inhibin locus on human chromosome 2** *JOURNAL OF CLINICAL ENDOCRINOLOGY & METABOLISM*
Montgomery, G. W., Duffy, D. L., Hall, J., Haddon, B. R., Kudo, M., Mcgee, E. A., Palmer, J. S., Hsueh, A. J., Boomsma, D. I., Martin, N. G.
2000; 85 (9): 3391-3395
 - **MCL-1S, a splicing variant of the antiapoptotic BCL-2 family member MCL-1, encodes a proapoptotic protein possessing only the BH3 domain** *JOURNAL OF BIOLOGICAL CHEMISTRY*
Bae, J., Leo, C. P., Hsu, S. Y., Hsueh, A. J.
2000; 275 (33): 25255-25261
 - **The three subfamilies of leucine-rich repeat-containing G protein-coupled receptors (LGR): Identification of LGR6 and LGR7 and the signaling mechanism for LGR7** *MOLECULAR ENDOCRINOLOGY*
Hsu, S. Y., Kudo, M., Chen, T., Nakabayashi, K., Bhalla, A., van der Spek, P. J., van Duin, M., Hsueh, A. J.
2000; 14 (8): 1257-1271
 - **Hormonal regulation of early follicle development in the rat ovary** *Workshop on Early Folliculogenesis and Oocyte Development - Basic and Clinical Aspects*
Hsueh, A. J., Mcgee, E. A., Hayashi, M., Hsu, S. Y.
ELSEVIER IRELAND LTD.2000: 95-100
 - **Discovering new hormones, receptors, and signaling mediators in the genomic era** *MOLECULAR ENDOCRINOLOGY*
Hsu, S. Y., Hsueh, A. J.
2000; 14 (5): 594-604
 - **Tissue-specific Bcl-2 protein partners in apoptosis: An ovarian paradigm** *PHYSIOLOGICAL REVIEWS*
Hsu, S. Y., Hsueh, A. J.
2000; 80 (2): 593-614
 - **Initial and cyclic recruitment of ovarian follicles** *ENDOCRINE REVIEWS*
Mcgee, E. A., Hsueh, A. J.
2000; 21 (2): 200-214
 - **Growth differentiation factor-9 stimulates proliferation but suppresses the follicle-stimulating hormone-induced differentiation of cultured granulosa cells from small antral and preovulatory rat follicles** *BIOLOGY OF REPRODUCTION*
Vitt, U. A., Hayashi, M., Klein, C., Hsueh, A. J.
2000; 62 (2): 370-377
 - **The nematode leucine-rich repeat-containing, G protein-coupled receptor (LGR) protein homologous to vertebrate gonadotropin and thyrotropin receptors is constitutively activated in mammalian cells** *MOLECULAR ENDOCRINOLOGY*
Kudo, M., Chen, T., Nakabayashi, K., Hsu, S. Y., Hsueh, A. J.
2000; 14 (2): 272-284
 - **The potential role of the oocyte in follicle development and ovarian aging** *10th Reinier DeGraaf Symposium*
Vitt, U., Hayashi, M., Hsueh, A. J.
PARTHENON PUBLISHING GROUP LTD.2000: 197-206
 - **Impairment of spermatogenesis through increased germ cell apoptosis in transgenic mice with selective overexpression of BCL-2 in the somatic cells of the testis.**
Portugal, A. M., Hikim, A. P., Yamamoto, C. M., Lue, Y. H., Guo, T. B., Hsu, S. Y., Salameh, W. A., Wang, C., Hsueh, A. J., Swerdloff, R. S.
B C DECKER INC.2000: 13A-13A
 - **Characterization of the antiapoptotic Bcl-2 family member myeloid cell leukemia-1 (Mcl-1) and the stimulation of its message by gonadotropins in the rat ovary** *ENDOCRINOLOGY*
Leo, C. P., Hsu, S. Y., Chun, S. Y., Bae, H. W., Hsueh, A. J.
1999; 140 (12): 5469-5477

- **The biological action of choriogonadotropin is not dependent on the complete native quaternary interactions between the subunits** *MOLECULAR ENDOCRINOLOGY*
Jackson, A. M., Berger, P., Pixley, M., Klein, C., Hsueh, A. J., Boime, I.
1999; 13 (12): 2175-2188
- **Keratinocyte growth factor promotes the survival, growth, and differentiation of preantral ovarian follicles** *FERTILITY AND STERILITY*
Mcgee, E. A., Chun, S. Y., Lai, S., He, Y. E., Hsueh, A. J.
1999; 71 (4): 732-738
- **Recombinant growth differentiation factor-9 (GDF-9) enhances growth and differentiation of cultured early ovarian follicles** *ENDOCRINOLOGY*
Hayashi, M., Mcgee, E. A., Min, G., Klein, C., Rose, U. M., van Duin, M., Hsueh, A. J.
1999; 140 (3): 1236-1244
- **Restricted expression of WT1 messenger ribonucleic acid in immature ovarian follicles: Uniformity in mammalian and avian species and maintenance during reproductive senescence** *BIOLOGY OF REPRODUCTION*
Chun, S. Y., Mcgee, E. A., Hsu, S. Y., Minami, S., LaPolt, P. S., Yao, H. H., Bahr, J. M., Gougeon, A., Schomberg, D. W., Hsueh, A. J.
1999; 60 (2): 365-373
- **Characterization of two LGR genes homologous to gonadotropin and thyrotropin receptors with extracellular leucine-rich repeats and a G protein-coupled, seven-transmembrane region** *MOLECULAR ENDOCRINOLOGY*
Hsu, S. Y., Liang, S. G., Hsueh, A. J.
1998; 12 (12): 1830-1845
- **DEFT, a novel death effector domain-containing molecule predominantly expressed in testicular germ cells** *ENDOCRINOLOGY*
Leo, C. P., Hsu, S. Y., Mcgee, E. A., Salanova, M., Hsueh, A. J.
1998; 139 (12): 4839-4848
- **A splicing variant of the Bcl-2 member Bok with a truncated BH3 domain induces apoptosis but does not dimerize with antiapoptotic Bcl-2 proteins in vitro** *JOURNAL OF BIOLOGICAL CHEMISTRY*
Hsu, S. Y., Hsueh, A. J.
1998; 273 (46): 30139-30146
- **Characterization of 2 LGR genes homologous to gonadotropin and thyrotropin receptors with extracellular leucine-rich repeats (LRR) and a 7-transmembrane region**
Hsu, S. Y., Liang, S., Hsueh, A. J.
AMER SOC CELL BIOLOGY.1998: 215A-215A
- **Intracellular mechanisms of ovarian cell apoptosis** *XIth International Workshop on Development and Function of the Reproductive Organs - Genetic and Endocrine Basis of Gonadal Failure*
Hsu, S. Y., Hsueh, A. J.
ELSEVIER IRELAND LTD.1998: 21-25
- **BOD (Bcl-2-Related ovarian death gene) is an ovarian BH3 domain-containing proapoptotic Bcl-2 protein capable of dimerization with diverse antiapoptotic Bcl-2 members** *MOLECULAR ENDOCRINOLOGY*
Hsu, S. Y., Lin, P., Hsueh, A. J.
1998; 12 (9): 1432-1440
- **Paracrine mechanisms of ovarian follicle apoptosis** *Workshop on Paracrine Mechanisms in Female Reproduction*
Chun, S. Y., Hsueh, A. J.
ELSEVIER IRELAND LTD.1998: 63-75
- **Phosphodiesterase 3 inhibitors suppress oocyte maturation and consequent pregnancy without affecting ovulation and cyclicity in rodents** *JOURNAL OF CLINICAL INVESTIGATION*
Wiersma, A., Hirsch, B., Tsafiriri, A., Hanssen, R. G., Van de Kant, M., Kloosterboer, H. J., Conti, M., Hsueh, A. J.
1998; 102 (3): 532-537
- **Cell death and survival during ovarian follicle development** *Ares-Serono Foundation Workshop on Developmental Endocrinology - Roles of Genes and Growth Factors During Embryogenesis and Development of Endocrine Structures*
Mcgee, E. A., Hsu, S. Y., Kaipia, A., Hsueh, A. J.
ELSEVIER IRELAND LTD.1998: 15-18

- **Conversion of thyrotropin heterodimer to a biologically active single-chain** *ENDOCRINOLOGY*
Fares, F. A., Yamabe, S., Ben-Menahem, D., Pixley, M., Hsueh, A. J., Boime, I.
1998; 139 (5): 2459-2464
- **Soluble ecto-domain mutant of thyrotropin (TSH) receptor incapable of binding TSH neutralizes the action of thyroid-stimulating antibodies from graves' patients** *ENDOCRINOLOGY*
Osuga, Y., Liang, S. G., Dallas, J. S., Wang, C., Hsueh, A. J.
1998; 139 (2): 671-676
- **DEFT, a novel death effector domain-containing molecule with predominant testicular expression.**
Leo, C. P., Hsu, S. Y., Hsueh, A. J.
SOC STUDY REPRODUCTION.1998: 74-75
- **Expression and function of a proapoptotic Bcl-2 family member Bcl-XL/Bcl-2-associated death promoter (BAD) in rat ovary** *ENDOCRINOLOGY*
Kaipia, A., Hsu, S. Y., Hsueh, A. J.
1997; 138 (12): 5497-5504
- **Bok is a pro-apoptotic Bcl-2 protein with restricted expression in reproductive tissues and heterodimerizes with selective anti-apoptotic Bcl-2 family members** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Hsu, S. Y., Kaipia, A., McGee, E., Lomeli, M., Hsueh, A. J.
1997; 94 (23): 12401-12406
- **Interference of BAD (Bcl-xL/Bcl-2-associated death promoter)-induced apoptosis in mammalian cells by 14-3-3 isoforms and P11** *MOLECULAR ENDOCRINOLOGY*
Hsu, S. Y., Kaipia, A., Zhu, L., Hsueh, A. J.
1997; 11 (12): 1858-1867
- **Follicle-stimulating hormone enhances the development of preantral follicles in juvenile rats** *BIOLOGY OF REPRODUCTION*
Mcgee, E. A., Perlas, E., LaPol, P. S., Tsafiriri, A., Hsueh, A. J.
1997; 57 (5): 990-998
- **Co-expression of defective luteinizing hormone receptor fragments partially reconstitutes ligand-induced signal generation** *JOURNAL OF BIOLOGICAL CHEMISTRY*
Osuga, Y., Hayashi, M., Kudo, M., Conti, M., Kobilka, B., Hsueh, A. J.
1997; 272 (40): 25006-25012
- **Derivation of functional antagonists using N-terminal extracellular domain of gonadotropin and thyrotropin receptors** *MOLECULAR ENDOCRINOLOGY*
Osuga, Y., Kudo, M., Kaipia, A., Kobilka, B., Hsueh, A. J.
1997; 11 (11): 1659-1668
- **Interference of BAD-induced apoptosis in mammalian cells by 14-3-3 isoforms and P11**
Hsu, S. Y., Kaipia, A., Zhu, L., Hsueh, A. J.
FEDERATION AMER SOC EXP BIOL.1997: A1241-A1241
- **Cystine knot of the gonadotropin alpha subunit is critical for intracellular behavior but not for in vitro biological activity** *JOURNAL OF BIOLOGICAL CHEMISTRY*
Sato, A., Perlas, E., BENMENAHEM, D., Kudo, M., Pixley, M. R., Furuhashi, M., Hsueh, A. J., Boime, I.
1997; 272 (29): 18098-18103
- **Hormonal regulation of apoptosis - An ovarian perspective** *TRENDS IN ENDOCRINOLOGY AND METABOLISM*
Hsu, S. Y., Hsueh, A. J.
1997; 8 (5): 207-213
- **Design of stable biologically active recombinant lutropin analogs** *NATURE BIOTECHNOLOGY*
GARCIACAMPAYO, V., Sato, A., Hirsch, B., Sugahara, T., Muyan, M., Hsueh, A. J., Boime, I.
1997; 15 (7): 663-667
- **Preantral ovarian follicles in serum-free culture: Suppression of apoptosis after activation of the cyclic guanosine 3',5'-monophosphate pathway and stimulation of growth and differentiation by follicle-stimulating hormone** *ENDOCRINOLOGY*
McGee, E., Spears, N., Minami, S., Hsu, S. Y., Chun, S. Y., Billig, H., Hsueh, A. J.

- 1997; 138 (6): 2417-2424
- **Telomerase activity in female and male rat germ cells undergoing meiosis and in early embryos** *BIOLOGY OF REPRODUCTION*
EISENHAUER, K. M., Gerstein, R. M., Chiu, C. P., Conti, M., Hsueh, A. J.
1997; 56 (5): 1120-1125
 - **The biologic action of single-chain choriogonadotropin is not dependent on the individual disulfide bonds of the beta subunit** *JOURNAL OF BIOLOGICAL CHEMISTRY*
BENMENAHEM, D., Kudo, M., Pixley, M. B., Sato, A., Suganuma, N., Perlas, E., Hsueh, A. J., Boime, I.
1997; 272 (11): 6827-6830
 - **Regulation of ovarian follicle atresia** *ANNUAL REVIEW OF PHYSIOLOGY*
Kaipia, A., Hsueh, A. J.
1997; 59: 349-363
 - **Conversion of heterodimeric gonadotropins to genetically linked single chains: new approaches to structure-activity relationships and analog design** *IX Reiner-de-Graaf Symposium on FSH Action and Intraovarian Regulation*
Boime, I., BENMENAHEM, D., Kudo, M., Sugahara, T., Sato, A., Hsueh, A. J.
PARTHENON PUBLISHING GROUP LTD.1997: 3-10
 - **The IX Reiner De Graaf Lecture - Hormone regulation of apoptotic cell death during ovarian follicle atresia** *IX Reiner-de-Graaf Symposium on FSH Action and Intraovarian Regulation*
Chun, S. Y., Kaipia, A., Hsueh, A. J.
PARTHENON PUBLISHING GROUP LTD.1997: 221-231
 - **Expression of biologically active fusion genes encoding the common alpha subunit and either the CG beta or FSH beta subunits: Role of a linker sequence** *International Conference on Gonadotropins and Their Receptors*
Sugahara, T., Grootenhuis, P. D., Sato, A., Kudo, M., BENMENAHEM, D., Pixley, M. R., Hsueh, A. J., Boime, I.
ELSEVIER IRELAND LTD.1996: 71-77
 - **Targeted overexpression of Bcl-2 in ovaries of transgenic mice leads to decreased follicle apoptosis, enhanced folliculogenesis, and increased germ cell tumorigenesis** *ENDOCRINOLOGY*
Hsu, S. Y., LAI, R. J., Finegold, M., Hsueh, A. J.
1996; 137 (11): 4837-4843
 - **Early onset of deoxyribonucleic acid fragmentation during atresia of preovulatory ovarian follicles in rats** *BIOLOGY OF REPRODUCTION*
Nahum, R., Beyth, Y., Chun, S. Y., Hsueh, A. J., Tsafirri, A.
1996; 55 (5): 1075-1080
 - **Tumor necrosis factor-alpha and its second messenger, ceramide, stimulate apoptosis in cultured ovarian follicles** *ENDOCRINOLOGY*
Kaipia, A., Chun, S. Y., Eisenhauer, K., Hsueh, A. J.
1996; 137 (11): 4864-4870
 - **Oocyte maturation involves compartmentalization and opposing changes of cAMP levels in follicular somatic and germ cells: Studies using selective phosphodiesterase inhibitors** *DEVELOPMENTAL BIOLOGY*
Tsafirri, A., Chun, S. Y., Zhang, R., Hsueh, A. J., Conti, M.
1996; 178 (2): 393-402
 - **Transmembrane regions V and VI of the human luteinizing hormone receptor are required for constitutive activation by a mutation in the third intracellular loop** *JOURNAL OF BIOLOGICAL CHEMISTRY*
Kudo, M., Osuga, Y., Kobilka, B. K., Hsueh, A. J.
1996; 271 (37): 22470-22478
 - **The C-terminal third of the human luteinizing hormone (LH) receptor is important for inositol phosphate release: Analysis using chimeric human LH/follicle-stimulating hormone receptors** *MOLECULAR ENDOCRINOLOGY*
Hirsch, B., Kudo, M., Naro, F., Conti, M., Hsueh, A. J.
1996; 10 (9): 1127-1137
 - **Heterogeneity of activating mutations of the human luteinizing hormone receptor in male-limited precocious puberty** *BIOCHEMICAL AND MOLECULAR MEDICINE*
Laue, L., Wu, S. M., Kudo, M., Hsueh, A. J., Cutler, G. B., JELLY, D. H., Diamond, F. B., Chan, W. Y.

1996; 58 (2): 192-198

- **Compound heterozygous mutations of the luteinizing hormone receptor gene in Leydig cell hypoplasia** *MOLECULAR ENDOCRINOLOGY*
Laue, L. L., Wu, S. M., Kudo, M., Bourdony, C. J., Cutler, G. B., Hsueh, A. J., Chan, W. Y.
1996; 10 (8): 987-997
- **Hormonal regulation of apoptosis in early antral follicles: Follicle-stimulating hormone as a major survival factor** *ENDOCRINOLOGY*
Chun, S. Y., EISENHAUER, K. M., Minami, S., Billig, H., Perlas, E., Hsueh, A. J.
1996; 137 (4): 1447-1456
- **Gonadal cell apoptosis** *1995 Conference on Recent Progress in Hormone Research*
Hsueh, A. J., Eisenhauer, K., Chun, S. Y., Hsu, S. Y., Billig, H.
ENDOCRINE SOC.1996: 433-456
- **Synthesis of genetically fused single chain analog of human chorionic gonadotropin: Implications for drug design and structure-function relationships** *Symposium on the Ovary - Regulation, Dysfunction and Treatment*
Boime, I., Sugahara, T., Pixley, M. R., Perlas, E., Hsueh, A. J.
ELSEVIER SCIENCE PUBL B V.1996: 43-50
- **Mechanisms of atresia: The hormonal control of apoptosis** *Symposium on the Ovary - Regulation, Dysfunction and Treatment*
EISENHAUER, K. M., Chun, S. Y., Minami, S., Billig, H., Hsueh, A. J.
ELSEVIER SCIENCE PUBL B V.1996: 103-112
- **DIFFERENT 5'-FLANKING REGIONS OF THE INHIBIN-ALPHA GENE TARGET TRANSGENES TO THE GONAD AND ADRENAL IN AN AGE-DEPENDENT MANNER IN TRANSGENIC MICE** *ENDOCRINOLOGY*
Hsu, S. Y., LAI, R. J., NANUEL, D., Hsueh, A. J.
1995; 136 (12): 5577-5586
- **WILMS-TUMOR PROTEIN WT1 AS AN OVARIAN TRANSCRIPTION FACTOR - DECREASES IN EXPRESSION DURING FOLLICLE DEVELOPMENT AND REPRESSION OF INHIBIN-ALPHA GENE PROMOTER** *MOLECULAR ENDOCRINOLOGY*
Hsu, S. Y., Kubo, M., Chun, S. Y., Haluska, F. G., Housman, D. E., Hsueh, A. J.
1995; 9 (10): 1356-1366
- **MISSENSE MUTATIONS IN EXON-10 AND EXON-11 OF THE HUMAN LUTEINIZING-HORMONE RECEPTOR GENE ARE ASSOCIATED WITH LEYDIG-CELL HYPOPLASIA**
Laue, L., Wu, S. M., Kudo, M., Hsueh, A. J., Cutler, G. B., Chan, W. Y.
CELL PRESS.1995: 1252-52
- **DESIGNER CONTRACEPTIVE PILLS** *HUMAN REPRODUCTION*
Hsueh, A. J.
1995; 10 (8): 1997-2000
- **A NONSENSE MUTATION OF THE HUMAN LUTEINIZING-HORMONE RECEPTOR GENE IN LEYDIG-CELL HYPOPLASIA** *HUMAN MOLECULAR GENETICS*
Laue, L., Wu, S. M., Kudo, M., Hsueh, A. J., Cutler, G. B., Griffin, J. E., Wilson, J. D., Brain, C., BERRY, A. C., Grant, D. B., Chan, W. Y.
1995; 4 (8): 1429-1433
- **INTERLEUKIN-1-BETA SUPPRESSES APOPTOSIS IN RAT OVARIAN FOLLICLES BY INCREASING NITRIC-OXIDE PRODUCTION** *ENDOCRINOLOGY*
Chun, S. Y., EISENHAUER, K. M., Kubo, M., Hsueh, A. J.
1995; 136 (7): 3120-3127
- **GROWTH-HORMONE SUPPRESSION OF APOPTOSIS IN PREOVULATORY RAT FOLLICLES AND PARTIAL NEUTRALIZATION BY INSULIN-LIKE GROWTH-FACTOR BINDING-PROTEIN** *BIOLOGY OF REPRODUCTION*
EISENHAUER, K. M., Chun, S. Y., Billig, H., Hsueh, A. J.
1995; 53 (1): 13-20
- **GENETIC-BASIS OF HUMAN REPRODUCTIVE ENDOCRINE DISORDERS** *HUMAN REPRODUCTION*
Fauser, B. C., Hsueh, A. J.
1995; 10 (4): 826-846

- **EXPRESSION OF LUTEINIZING-HORMONE AND CHORIONIC-GONADOTROPIN RECEPTOR MESSENGER-RIBONUCLEIC-ACID IN HUMAN CORPORA-LUTEA DURING MENSTRUAL-CYCLE AND PREGNANCY** *JOURNAL OF CLINICAL ENDOCRINOLOGY & METABOLISM*
Nishimori, K., Dunkel, L., Hsueh, A. J., Yamoto, M., Nakano, R.
1995; 80 (4): 1444-1448
- **BIOSYNTHESIS OF A BIOLOGICALLY-ACTIVE SINGLE PEPTIDE-CHAIN CONTAINING THE HUMAN COMMON ALPHA-SUBUNITS AND CHORIONIC-GONADOTROPIN BETA-SUBUNITS IN TANDEM** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Sugahara, T., Pixley, M. R., Minami, S., Perlas, E., BENMENAHEM, D., Hsueh, A. J., Boime, I.
1995; 92 (6): 2041-2045
- **GENETIC-HETEROGENEITY OF CONSTITUTIVELY ACTIVATING MUTATIONS OF THE HUMAN LUTEINIZING-HORMONE RECEPTOR IN FAMILIAL MALE-LIMITED PRECOCIOUS PUBERTY** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Laue, L., Chan, W. Y., Hsueh, A. J., Kudo, M., Hsu, S. Y., Wu, S. M., Blomberg, L. A., Cutler, G. B.
1995; 92 (6): 1906-1910
- **APOPTOSIS IN TESTIS GERM-CELLS - DEVELOPMENTAL-CHANGES IN GONADOTROPIN DEPENDENCE AND LOCALIZATION TO SELECTIVE TUBULE STAGES** *ENDOCRINOLOGY*
Billig, H., Furuta, I., Rivier, C., Tapanainen, J., Parvinen, M., Hsueh, A. J.
1995; 136 (1): 5-12
- **FUSING THE CARBOXY-TERMINAL PEPTIDE OF THE CHORIONIC-GONADOTROPIN (CG) BETA-SUBUNIT TO THE COMMON ALPHA-SUBUNIT - RETENTION OF O-LINKED GLYCOSYLATION AND ENHANCED IN-VIVO BIOACTIVITY OF CHIMERIC HUMAN CG** *MOLECULAR ENDOCRINOLOGY*
Furuhashi, M., Shikone, T., Fares, F. A., Sugahara, T., Hsueh, A. J., Boime, I.
1995; 9 (1): 54-63
- **HORMONAL-REGULATION OF APOPTOSIS IS DEPENDENT ON THE STAGE OF FOLLICLE DEVELOPMENT - FSH, LH, AND IGF-I AS SURVIVAL FACTORS FOR EARLY ANTRAL FOLLICLES**
EISENHAUER, K. M., Chun, S. Y., Minami, S., Hsueh, A. J.
SOC STUDY REPRODUCTION.1995: 149-149
- **SUPPRESSION OF FOLLICLE ATRESIA IN TRANSGENIC MICE OVER-EXPRESSING HUMAN BCL-2 PROTEIN IN THE OVARY**
Hsu, S. Y., LAI, R. J., Chun, S. Y., Hsueh, A. J.
SOC STUDY REPRODUCTION.1995: 150-150
- **OVARIAN FOLLICLE ATRESIA - A HORMONALLY CONTROLLED APOPTOTIC PROCESS** *ENDOCRINE REVIEWS*
Hsueh, A. J., Billig, H., Tsafiriri, A.
1994; 15 (6): 707-724
- **PHOTOPERIOD REGULATES TESTIS CELL APOPTOSIS IN DJUNGARIAN HAMSTERS** *BIOLOGY OF REPRODUCTION*
Furuta, I., PORKKAHEISKANEN, T., Scarbrough, K., Tapanainen, J., Turek, F. W., Hsueh, A. J.
1994; 51 (6): 1315-1321
- **EXPERIMENTALLY-INDUCED CRYPTORCHIDISM INCREASES APOPTOSIS IN RAT TESTIS** *BIOLOGY OF REPRODUCTION*
Shikone, T., Billig, H., Hsueh, A. J.
1994; 51 (5): 865-872
- **GONADOTROPIN SUPPRESSION OF APOPTOSIS IN CULTURED PREOVULATORY FOLLICLES - MEDIATORY ROLE OF ENDOGENOUS INSULIN-LIKE GROWTH-FACTOR-I** *ENDOCRINOLOGY*
Chun, S. Y., Billig, H., Tilly, J. L., Furuta, I., Tsafiriri, A., Hsueh, A. J.
1994; 135 (5): 1845-1853
- **MUTAGENESIS OF CYSTEINE RESIDUES IN THE HUMAN GONADOTROPIN ALPHA-SUBUNIT - ROLES OF INDIVIDUAL DISULFIDE BONDS IN SECRETION, ASSEMBLY, AND BIOLOGIC ACTIVITY** *JOURNAL OF BIOLOGICAL CHEMISTRY*
Furuhashi, M., Ando, H., Bielinska, M., Pixley, M. R., Shikone, T., Hsueh, A. J., Boime, I.
1994; 269 (41): 25543-25548
- **BACTERIAL EXPRESSION AND IN-VITRO FOLDING OF THE BETA-SUBUNIT OF HUMAN CHORIONIC-GONADOTROPIN (HCG-BETA) AND FUNCTIONAL ASSEMBLY OF RECOMBINANT HCG-BETA WITH HCG-ALPHA** *ENDOCRINOLOGY*

- Huth, J. R., Norton, S. E., Lockridge, O., Shikone, T., Hsueh, A. J., Ruddon, R. W.
1994; 135 (3): 911-918
- **CHARACTERIZATION OF GONADAL SEX CORD-STROMAL TUMOR-CELL LINES FROM INHIBIN-ALPHA AND P53-DEFICIENT MICE - THE ROLE OF ACTIVIN AS AN AUTOCRINE GROWTH-FACTOR** *MOLECULAR ENDOCRINOLOGY*
Shikone, T., Matzuk, M. M., Perlas, E., Finegold, M. J., Lewis, K. A., Vale, W., Bradley, A., Hsueh, A. J.
1994; 8 (8): 983-995
 - **CONSTITUTIVELY ACTIVATING MUTATIONS AT MULTIPLE SITES WITHIN THE HUMAN LUTEINIZING-HORMONE RECEPTOR (HLHR) IN FAMILIAL MALE PRECOCIOUS PUBERTY (FMPP)**
Laue, L., Hsueh, A., Cutler, G. B., Chan, W. Y.
FEDERATION AMER SOC EXP BIOL.1994: A1320-A1320
 - **FOLLICLE-STIMULATING-HORMONE RECEPTOR EXPRESSION IN THE RAT OVARY - INCREASES DURING PREPUBERTAL DEVELOPMENT AND REGULATION BY THE OPPOSING ACTIONS OF TRANSFORMING GROWTH FACTORS-BETA AND FACTORS-ALPHA** *BIOLOGY OF REPRODUCTION*
Dunkel, L., Tilly, J. L., Shikone, T., Nishimori, K., Hsueh, A. J.
1994; 50 (4): 940-948
 - **RECOMBINANT DEGLYCOSYLATED HUMAN FSH IS AN ANTAGONIST OF HUMAN FSH ACTION IN CULTURED RAT GRANULOSA-CELLS** *ENDOCRINE*
Keene, J. L., Nishimori, K., Galway, A. B., Matzuk, M. M., Hsueh, A. J., Boime, I.
1994; 2 (3): 175-180
 - **GONADOTROPIN-RELEASING-HORMONE DIRECTLY INDUCES APOPTOTIC CELL-DEATH IN THE RAT OVARY - BIOCHEMICAL AND IN-SITU DETECTION OF DEOXYRIBONUCLEIC-ACID FRAGMENTATION IN GRANULOSA-CELLS** *ENDOCRINOLOGY*
Billig, H., Furuta, I., Hsueh, A. J.
1994; 134 (1): 245-252
 - **GONADOTROPIN CONTROL OF FOLLICLE OVULATION, LUTEINIZATION AND ATRESIA** *VIIIth World Congress on In Vitro Fertilization and Alternate Assisted Reproduction*
Tapanainen, J. S., Billig, H., Furuta, I., Hsueh, A. J.
ARES-SERONO SYMPOSIA PUBLICATIONS.1994: 439-447
 - **STRUCTURE-FUNCTION STUDIES OF GONADOTROPINS USING SITE-DIRECTED MUTAGENESIS AND GENE-TRANSFER - DESIGN OF A LONG-ACTING GONADOTROPIN AGONIST** *Symposium on Ovulation Induction: Basic Science and Clinical Advances*
Boime, I., Fares, F., Furuhashi, M., LAPOLT, P. D., Nishimori, K., Shikone, T., Sugahara, T., Hsueh, A. J.
ELSEVIER SCIENCE PUBL B V.1994: 177-184
 - **LUMINESCENCE LUTEINIZING-HORMONE CHORIOGONADOTROPIN (LH CG) BIOASSAY - MEASUREMENT OF SERUM BIOACTIVE LH CG DURING EARLY-PREGNANCY IN HUMAN AND MACAQUE** *BIOLOGY OF REPRODUCTION*
Jia, X. C., Perlas, E., SU, J. G., Moran, F., Lasley, B. L., NY, T., Hsueh, A. J.
1993; 49 (6): 1310-1316
 - **INDUCTION OF OVARIAN FOLLICLE LUTEINIZATION BY RECOMBINANT FOLLICLE-STIMULATING-HORMONE** *ENDOCRINOLOGY*
Tapanainen, J. S., LaPolt, P. S., Perlas, E., Hsueh, A. J.
1993; 133 (6): 2875-2880
 - **ESTROGENS INHIBIT AND ANDROGENS ENHANCE OVARIAN GRANULOSA-CELL APOPTOSIS** *ENDOCRINOLOGY*
Billig, H., Furuta, I., Hsueh, A. J.
1993; 133 (5): 2204-2212
 - **TRANSIENT AND CELL-SPECIFIC EXPRESSION OF TISSUE-TYPE PLASMINOGEN-ACTIVATOR AND PLASMINOGEN-ACTIVATOR-INHIBITOR TYPE-1 RESULTS IN CONTROLLED AND DIRECTED PROTEOLYSIS DURING GONADOTROPIN-INDUCED OVULATION** *EUROPEAN JOURNAL OF BIOCHEMISTRY*
Peng, X. R., Hsueh, A. J., NY, T.
1993; 214 (1): 147-156
 - **HORMONAL-CONTROL OF APOPTOTIC CELL-DEATH IN THE TESTIS - GONADOTROPINS AND ANDROGENS AS TESTICULAR CELL-SURVIVAL FACTORS** *MOLECULAR ENDOCRINOLOGY*
Tapanainen, J. S., Tilly, J. L., Vihko, K. K., Hsueh, A. J.

1993; 7 (5): 643-650

- **MICROSCALE AUTORADIOGRAPHIC METHOD FOR THE QUALITATIVE AND QUANTITATIVE-ANALYSIS OF APOPTOTIC DNA FRAGMENTATION** *JOURNAL OF CELLULAR PHYSIOLOGY*
Tilly, J. L., Hsueh, A. J.
1993; 154 (3): 519-526
- **IDENTIFICATION OF A NOVEL TUMOR SUPPRESSOR VIA GENE TARGETING IN THE MOUSE**
Matzuk, M. M., Finegold, M. J., Su, J. G., Hsueh, A. J., Bradley, A.
FEDERATION AMER SOC EXP BIOL.1993: A54-A54
- **DEGLYCOSYLATED HUMAN CHORIONIC-GONADOTROPIN (HCG) ANTAGONIZES HCG STIMULATION OF 3',5'-CYCLIC ADENOSINE-MONOPHOSPHATE ACCUMULATION THROUGH A NONCOMPETITIVE INTERACTION WITH RECOMBINANT HUMAN LUTEINIZING-HORMONE RECEPTORS** *ENDOCRINOLOGY*
Dunkel, L., Jia, X. C., Nishimori, K., Boime, I., Hsueh, A. J.
1993; 132 (2): 763-769
- **STRUCTURE FUNCTION STUDIES OF GONADOTROPINS USING SITE-DIRECTED MUTAGENESIS AND GENE TRANSFER - DESIGN OF A LONG-ACTING FOLLITROPIN AGONIST** *3rd Organon Round Table Conference - GnRH, GnRH Analogs, Gonadotropins and Gonadal Peptides*
Boime, I., Fares, F., LAPOLT, P. A., Nishimori, K., Perlas, E., Hsueh, A. J.
PARTHENON PUBLISHING GROUP LTD.1993: 347-356
- **INTRAOVARIAN SIGNALING MECHANISMS AND CONTROL** *CONF ON SEXUAL PRECOCITY*
Vihko, K. K., Piquette, G. N., Hsueh, A. J.
RAVEN PRESS.1993: 253-261
- **ENHANCED STIMULATION OF FOLLICLE MATURATION AND OVULATORY POTENTIAL BY LONG-ACTING FOLLICLE-STIMULATING-HORMONE AGONISTS WITH EXTENDED CARBOXYL-TERMINAL PEPTIDES** *ENDOCRINOLOGY*
LaPolt, P. S., Nishimori, K., Fares, F. A., Perlas, E., Boime, I., Hsueh, A. J.
1992; 131 (6): 2514-2520
- **ALPHA-INHIBIN IS A TUMOR-SUPPRESSOR GENE WITH GONADAL SPECIFICITY IN MICE** *NATURE*
Matzuk, M. M., Finegold, M. J., SU, J. G., Hsueh, A. J., Bradley, A.
1992; 360 (6402): 313-319
- **EPIDERMAL GROWTH-FACTOR AND BASIC FIBROBLAST GROWTH-FACTOR SUPPRESS THE SPONTANEOUS ONSET OF APOPTOSIS IN CULTURED RAT OVARIAN GRANULOSA-CELLS AND FOLLICLES BY A TYROSINE KINASE-DEPENDENT MECHANISM** *MOLECULAR ENDOCRINOLOGY*
Tilly, J. L., Billig, H., KOWALSKI, K. I., Hsueh, A. J.
1992; 6 (11): 1942-1950
- **APOPTOSIS IN ATRETIC OVARIAN FOLLICLES IS ASSOCIATED WITH SELECTIVE DECREASES IN MESSENGER-RIBONUCLEIC-ACID TRANSCRIPTS FOR GONADOTROPIN RECEPTORS AND CYTOCHROME P450 AROMATASE** *ENDOCRINOLOGY*
Tilly, J. L., KOWALSKI, K. I., Schomberg, D. W., Hsueh, A. J.
1992; 131 (4): 1670-1676
- **EXPRESSION OF RECOMBINANT HUMAN FOLLICLE-STIMULATING-HORMONE RECEPTOR - SPECIES-SPECIFIC LIGAND-BINDING, SIGNAL TRANSDUCTION, AND IDENTIFICATION OF MULTIPLE OVARIAN MESSENGER-RIBONUCLEIC-ACID TRANSCRIPTS** *ENDOCRINOLOGY*
Tilly, J. L., Aihara, T., Nishimori, K., Jia, X. C., Billig, H., KOWALSKI, K. I., PERLAS, E. A., Hsueh, A. J.
1992; 131 (2): 799-806
- **CHARACTERIZATION OF MOUSE INHIBIN-ALPHA GENE AND ITS PROMOTER** *BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS*
SU, J. G., Hsueh, A. J.
1992; 186 (1): 293-300
- **MOLECULAR-BASIS OF GONADOTROPIN RECEPTOR REGULATION** *TRENDS IN ENDOCRINOLOGY AND METABOLISM*
Hsueh, A. J., LaPolt, P. S.
1992; 3 (5): 164-170

- **EXPRESSION OF TESTICULAR MESSENGER-RIBONUCLEIC-ACID FOR LUTEINIZING-HORMONE RECEPTOR IN THE RAT - DEVELOPMENTAL REGULATION OF MULTIPLE TRANSCRIPTS DURING POSTNATAL LIFE** *BIOLOGY OF REPRODUCTION*
Vihko, K. K., Nishimori, K., LaPolt, P. S., Hsueh, A. J.
1992; 46 (6): 1016-1020
- **DESIGN OF A LONG-ACTING FOLLITROPIN AGONIST BY FUSING THE C-TERMINAL SEQUENCE OF THE CHORIONIC-GONADOTROPIN BETA-SUBUNIT TO THE FOLLITROPIN BETA-SUBUNIT** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Fares, F. A., Suganuma, N., Nishimori, K., LaPolt, P. S., Hsueh, A. J., Boime, I.
1992; 89 (10): 4304-4308
- **HORMONAL-REGULATION OF FOLLICLE-STIMULATING-HORMONE RECEPTOR MESSENGER-RIBONUCLEIC-ACID LEVELS IN CULTURED RAT GRANULOSA-CELLS** *ENDOCRINOLOGY*
Tilly, J. L., LaPolt, P. S., Hsueh, A. J.
1992; 130 (3): 1296-1302
- **GONADOTROPIN-INDUCED UP-REGULATION AND DOWN-REGULATION OF OVARIAN FOLLICLE-STIMULATING-HORMONE (FSH) RECEPTOR GENE-EXPRESSION IN IMMATURE RATS - EFFECTS OF PREGNANT MARES SERUM GONADOTROPIN, HUMAN CHORIONIC-GONADOTROPIN, AND RECOMBINANT FSH** *ENDOCRINOLOGY*
LaPolt, P. S., Tilly, J. L., Aihara, T., Nishimori, K., Hsueh, A. J.
1992; 130 (3): 1289-1295
- **EXPRESSION OF RECOMBINANT HUMAN FSH, LH, AND CG IN MAMMALIAN-CELLS - A STRUCTURE-FUNCTION MODEL FOR THERAPEUTIC DRUG DESIGN** *SEMINARS IN REPRODUCTIVE ENDOCRINOLOGY*
Boime, I., Keene, J., Galway, A. B., FARES, F. M., LaPolt, P., Hsueh, A. J.
1992; 10 (1): 45-50
- **APOPTOSIS AS THE BASIS OF OVARIAN FOLLICULAR ATRESIA** *9TH WORKSHOP ON THE DEVELOPMENT AND FUNCTION OF REPRODUCTIVE ORGANS*
Tilly, J. L., Hsueh, A. J.
RAVEN PRESS.1992: 157-165
- **GONADOTROPIN INDUCED TRANSIENT AND CELL-SPECIFIC EXPRESSION OF TISSUE-TYPE PLASMINOGEN-ACTIVATOR AND PLASMINOGEN-ACTIVATOR INHIBITOR TYPE-1 LEADS TO A CONTROLLED AND DIRECTED PROTEOLYSIS DURING OVULATION** *FIBRINOLYSIS*
Peng, X. R., Leonardsson, G., Ohlsson, M., Hsueh, A. J., NY, T.
1992; 6: 151-155
- **Molecular basis of inhibin production and action.** *Molecular and cellular neurosciences*
LaPolt, P. S., Hsueh, A. J.
1991; 2 (6): 449-463
- **LOCALIZATION OF LUTEINIZING-HORMONE RECEPTOR MESSENGER-RIBONUCLEIC-ACID EXPRESSION IN OVARIAN CELL-TYPES DURING FOLLICLE DEVELOPMENT AND OVULATION** *ENDOCRINOLOGY*
Peng, X. R., Hsueh, A. J., LaPolt, P. S., BJERSING, L., NY, T.
1991; 129 (6): 3200-3207
- **INVOLVEMENT OF APOPTOSIS IN OVARIAN FOLLICULAR ATRESIA AND POSTOVULATORY REGRESSION** *ENDOCRINOLOGY*
Tilly, J. L., KOWALSKI, K. I., Johnson, A. L., Hsueh, A. J.
1991; 129 (5): 2799-2801
- **STIMULATORY EFFECTS OF RECOMBINANT FOLLICLE-STIMULATING-HORMONE ON LEYDIG-CELL FUNCTION AND SPERMATOGENESIS IN IMMATURE HYPOPHYSECTOMIZED RATS** *ENDOCRINOLOGY*
Vihko, K. K., LaPolt, P. S., Nishimori, K., Hsueh, A. J.
1991; 129 (4): 1926-1932
- **EXPRESSION OF BIOLOGICALLY-ACTIVE HETERODIMERIC BOVINE FOLLICLE-STIMULATING-HORMONE IN MILK OF TRANSGENIC MICE** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Greenberg, N. M., Anderson, J. W., Hsueh, A. J., Nishimori, K., Reeves, J. J., deAvila, D. M., WARD, D. N., Rosen, J. M.
1991; 88 (19): 8327-8331

- **EXPRESSION OF HUMAN LUTEINIZING-HORMONE (LH) RECEPTOR - INTERACTION WITH LH AND CHORIONIC-GONADOTROPIN FROM HUMAN BUT NOT EQUINE, RAT, AND OVINE SPECIES** *MOLECULAR ENDOCRINOLOGY*
Jia, X. C., Oikawa, M., Bo, M., Tanaka, T., NY, T., Boime, I., Hsueh, A. J.
1991; 5 (6): 759-768
- **REGULATION OF LUTEINIZING-HORMONE RECEPTOR MESSENGER-RIBONUCLEIC-ACID LEVELS BY GONADOTROPINS, GROWTH-FACTORS, AND GONADOTROPIN-RELEASING-HORMONE IN CULTURED RAT GRANULOSA-CELLS** *ENDOCRINOLOGY*
Piquette, G. N., LaPolt, P. S., Oikawa, M., Hsueh, A. J.
1991; 128 (5): 2449-2456
- **LIGAND-INDUCED DOWN-REGULATION OF TESTICULAR AND OVARIAN LUTEINIZING-HORMONE (LH) RECEPTORS IS PRECEDED BY TISSUE-SPECIFIC INHIBITION OF ALTERNATIVELY PROCESSED LH RECEPTOR TRANSCRIPTS** *MOLECULAR ENDOCRINOLOGY*
LaPolt, P. S., Jia, X. C., Sincich, C., Hsueh, A. J.
1991; 5 (3): 397-403
- **RECOMBINANT FOLLICLE-STIMULATING-HORMONE INDUCES OVULATION AND TISSUE PLASMINOGEN-ACTIVATOR EXPRESSION IN HYPOPHYSECTOMIZED RATS** *ENDOCRINOLOGY*
Galway, A. B., LaPolt, P. S., Tsafiriri, A., DARGAN, C. M., Boime, I., Hsueh, A. J.
1990; 127 (6): 3023-3028
- **BASIC FIBROBLAST GROWTH-FACTOR INDUCTION OF GRANULOSA-CELL TISSUE-TYPE PLASMINOGEN-ACTIVATOR EXPRESSION AND OOCYTE MATURATION - POTENTIAL ROLE AS A PARACRINE OVARIAN HORMONE** *ENDOCRINOLOGY*
LaPolt, P. S., Yamoto, M., Veljkovic, M., Sincich, C., NY, T., Tsafiriri, A., Hsueh, A. J.
1990; 127 (5): 2357-2363
- **REGULATION OF INHIBIN SUBUNIT MESSENGER-RIBONUCLEIC-ACID LEVELS BY GONADOTROPINS, GROWTH-FACTORS, AND GONADOTROPIN-RELEASING-HORMONE IN CULTURED RAT GRANULOSA-CELLS** *ENDOCRINOLOGY*
LaPolt, P. S., Piquette, G. N., SOTO, D., Sincich, C., Hsueh, A. J.
1990; 127 (2): 823-831
- **INVITRO AND INVIVO BIOACTIVITY OF RECOMBINANT HUMAN FOLLICLE-STIMULATING-HORMONE AND PARTIALLY DEGLYCOSYLATED VARIANTS SECRETED BY TRANSFECTED EUKARYOTIC CELL-LINES** *ENDOCRINOLOGY*
Galway, A. B., Hsueh, A. J., Keene, J. L., Yamoto, M., Fauser, B. C., Boime, I.
1990; 127 (1): 93-100
- **SYNERGISTIC EFFECT OF GLUCOCORTICOIDS AND ANDROGENS ON THE HORMONAL INDUCTION OF TISSUE PLASMINOGEN-ACTIVATOR ACTIVITY AND MESSENGER-RIBONUCLEIC-ACID LEVELS IN GRANULOSA-CELLS** *MOLECULAR AND CELLULAR ENDOCRINOLOGY*
Jia, X. C., NY, T., Hsueh, A. J.
1990; 68 (2-3): 143-151
- **THE BIOLOGICAL ROLE OF THE CARBOXYL-TERMINAL EXTENSION OF HUMAN CHORIONIC-GONADOTROPIN BETA-SUBUNIT** *ENDOCRINOLOGY*
Matzuk, M. M., Hsueh, A. J., LaPolt, P., Tsafiriri, A., Keene, J. L., Boime, I.
1990; 126 (1): 376-383
- **HORMONE REGULATION OF TISSUE-TYPE PLASMINOGEN-ACTIVATOR AND PLASMINOGEN-ACTIVATOR INHIBITOR TYPE-1 GENE-EXPRESSION IN THE OVARY** *INTERNATIONAL SYMP ON MAJOR ADVANCES IN FEMALE REPRODUCTION*
NY, T., Liu, Y. X., Ohlsson, M., Peng, X. R., Jia, X. C., Hsueh, A. J.
RAVEN PRESS.1990: 77-84
- **EXPRESSION OF RECOMBINANT HUMAN FSH AND LH IN MAMMALIAN-CELLS - A SOURCE OF POTENTIAL AGONISTS AND ANTAGONISTS FOR CONTROLLING FERTILITY** *7TH REINER DE GRAAF SYMP : FROM OVULATION TO IMPLANTATION*
Boime, I., Keene, J., Matzuk, M. M., LaPolt, P., Hsueh, A. J.
ELSEVIER SCIENCE PUBL B V.1990: 23-34
- **RAT GRANULOSA-CELLS PRODUCE A NOVEL TRYPSIN-LIKE PROTEASE IN RESPONSE TO GONADOTROPIN TREATMENT** *BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS*
Bicsak, T. A., MICHELSON, D. S., Hsueh, A. J.
1989; 165 (2): 624-630

- **GRANULOSA-CELL AROMATASE BIOASSAY - CHANGES OF BIOACTIVE FSH-LEVELS IN THE FEMALE** *INTERNATIONAL SYMP OF LA-FONDATION-DE-RECHERCHE-EN-HORMONOLOGIE, : RECENT ADVANCES IN GONADOTROPINS*
Fauser, B. C., SOTO, D., Czekala, N. M., Hsueh, A. J.
PERGAMON-ELSEVIER SCIENCE LTD.1989: 721-26
- **EFFECTS OF TRANSFORMING GROWTH-FACTORS AND INHIBIN-RELATED PROTEINS ON RAT PREOVULATORY GRAAFIAN-FOLLICLES INVITRO** *ENDOCRINOLOGY*
Tsafiriri, A., Vale, W., Hsueh, A. J.
1989; 125 (4): 1857-1862
- **EPIDERMAL GROWTH-FACTOR STIMULATES TISSUE PLASMINOGEN-ACTIVATOR ACTIVITY AND MESSENGER RIBONUCLEIC-ACID LEVELS IN CULTURED RAT GRANULOSA-CELLS - MEDIATION BY PATHWAYS INDEPENDENT OF PROTEIN KINASE-A AND KINASE-C** *ENDOCRINOLOGY*
Galway, A. B., Oikawa, M., NY, T., Hsueh, A. J.
1989; 125 (1): 126-135
- **INHIBITORY ACTIONS OF INTERLEUKIN-1-BETA ON STEROIDOGENESIS IN PRIMARY CULTURES OF NEONATAL RAT TESTICULAR CELLS** *ACTA ENDOCRINOLOGICA*
Fauser, B. C., Galway, A. B., Hsueh, A. J.
1989; 120 (4): 401-408
- **EXPRESSION OF BIOLOGICALLY-ACTIVE HUMAN FOLLITROPIN IN CHINESE-HAMSTER OVARY CELLS** *JOURNAL OF BIOLOGICAL CHEMISTRY*
Keene, J. L., Matzuk, M. M., Otani, T., Fauser, B. C., Galway, A. B., Hsueh, A. J., Boime, I.
1989; 264 (9): 4769-4775
- **EFFECTS OF DIVERSE MAMMALIAN AND NONMAMMALIAN GONADOTROPINS IN A RAT GRANULOSA-CELL BIOASSAY FOR FOLLICLE-STIMULATING-HORMONE** *GENERAL AND COMPARATIVE ENDOCRINOLOGY*
Dahl, K. D., PAPKOFF, H., Hsueh, A. J.
1989; 73 (3): 368-373
- **RAT OOCYTE TISSUE PLASMINOGEN-ACTIVATOR IS A CATALYTICALLY EFFICIENT ENZYME IN THE ABSENCE OF FIBRIN - ENDOGENOUS POTENTIATION OF ENZYME-ACTIVITY** *JOURNAL OF BIOLOGICAL CHEMISTRY*
Bicsak, T. A., Hsueh, A. J.
1989; 264 (1): 630-634
- **TRANSFORMING GROWTH-FACTOR-BETA INHIBITS THE LH-INDUCED MATURATION OF RAT OOCYTES** *7TH OVARIAN WORKSHOP ON PARACRINE COMMUNICATION IN THE OVARY, ONTOGENESIS AND GROWTH FACTORS*
Tsafiriri, A., Hsueh, A. J.
PLENUM PRESS DIV PLENUM PUBLISHING CORP.1989: 209-212
- **NEURO-ENDOCRINE REGULATION OF OOCYTE TISSUE PLASMINOGEN-ACTIVATOR** *METHODS IN ENZYMOLOGY*
Bicsak, T. A., Hekman, C. M., Hsueh, A. J.
1989; 168: 422-430
- **GRANULOSA-CELLS AS HORMONE TARGETS - THE ROLE OF BIOLOGICALLY-ACTIVE FOLLICLE-STIMULATING-HORMONE IN REPRODUCTION** *RECENT PROGRESS IN HORMONE RESEARCH*
Hsueh, A. J., Bicsak, T. A., Jia, X. C., Dahl, K. D., Fauser, B. C., Galway, A. B., Czekala, N., PAVLOU, S. N., PAPKOFF, H., Keene, J., Boime, I.
1989; 45: 209-277
- **SUPPRESSION OF OVULATION RATE BY ANTIBODIES TO TISSUE-TYPE PLASMINOGEN-ACTIVATOR AND ALPHA-2-ANTIPLASMIN** *ENDOCRINOLOGY*
Tsafiriri, A., Bicsak, T. A., CAJANDER, S. B., NY, T., Hsueh, A. J.
1989; 124 (1): 415-421
- **TISSUE-TYPE PLASMINOGEN-ACTIVATOR IN RAT OOCYTES - EXPRESSION DURING THE PERIOVULATORY PERIOD, AFTER FERTILIZATION, AND DURING FOLLICULAR ATRESIA** *ENDOCRINOLOGY*
Bicsak, T. A., CAJANDER, S. B., Peng, X. R., NY, T., LaPolt, P. S., Lu, J. K., Kristensen, P., Tsafiriri, A., Hsueh, A. J.
1989; 124 (1): 187-194
- **BIOASSAYS OF GONADOTROPINS - BACKGROUND AND CLINICAL-APPLICATIONS** *SYMP ON STRUCTURE-FUNCTION RELATIONSHIP OF GONADOTROPINS*

Fauser, B. C., Hsueh, A. J.
RAVEN PRESS.1989: 123-136

- **GRANULOSA-CELLS AS HORMONE TARGETS - THE ROLE OF BIOLOGICALLY-ACTIVE FOLLICLE-STIMULATING-HORMONE IN REPRODUCTION** *1988 LAURENTIAN HORMONE CONF : RECENT PROGRESS IN HORMONE RESEARCH*
Hsueh, A. J., Bicsak, T. A., Jia, X. C., Dahl, K. D., Fauser, B. C., Galway, A. B., Czekala, N., PAVLOU, S. N., PAPKOFF, H., Keene, J., Boime, I.
ACADEMIC PRESS INC.1989: 209-277
- **FIBROBLAST GROWTH-FACTORS AS LOCAL MEDIATORS OF GONADAL-FUNCTION** *7TH OVARIAN WORKSHOP ON PARACRINE COMMUNICATION IN THE OVARY, ONTOGENESIS AND GROWTH FACTORS*
Baird, A., Emoto, N., Shimasaki, S., Gonzalez, A. M., Fauser, B., Hsueh, A. J.
PLENUM PRESS DIV PLENUM PUBLISHING CORP.1989: 151-160
- **FIBROBLAST GROWTH-FACTOR INHIBITS LUTEINIZING HORMONE-STIMULATED ANDROGEN PRODUCTION BY CULTURED RAT TESTICULAR CELLS** *ENDOCRINOLOGY*
Fauser, B. C., Baird, A., Hsueh, A. J.
1988; 123 (6): 2935-2941
- **HORMONAL-REGULATION OF TISSUE-TYPE PLASMINOGEN-ACTIVATOR MESSENGER RIBONUCLEIC-ACID LEVELS IN RAT GRANULOSA-CELLS - MECHANISMS OF INDUCTION BY FOLLICLE-STIMULATING-HORMONE AND GONADOTROPIN-RELEASING HORMONE** *MOLECULAR ENDOCRINOLOGY*
Ohlsson, M., Hsueh, A. J., NY, T.
1988; 2 (9): 854-861
- **INHIBIN - STUDIES OF STORED AND SECRETED FORMS BY BIOSYNTHETIC LABELING AND IMMUNODETECTION IN CULTURED RAT GRANULOSA-CELLS** *ENDOCRINOLOGY*
Bicsak, T. A., CAJANDER, S. B., Vale, W., Hsueh, A. J.
1988; 122 (2): 741-748
- **GROWTH-FACTORS - INTRAGONADAL REGULATION OF DIFFERENTIATED FUNCTIONS** *8TH INTERNATIONAL CONGRESS OF ENDOCRINOLOGY*
Fauser, B. C., Hsueh, A. J.
ELSEVIER SCIENCE PUBL B V.1988: 451-456
- **EFFECT OF TRANSFORMING GROWTH FACTOR-BETA ON HUMAN CHORIONIC-GONADOTROPIN INDUCED TESTOSTERONE PRODUCTION BY CULTURED RAT TESTICULAR CELLS** *LIFE SCIENCES*
Fauser, B. C., Hsueh, A. J.
1988; 43 (17): 1363-1370
- **NATURALLY-OCCURRING ANTIHORMONES - SECRETION OF FSH ANTAGONISTS BY WOMEN TREATED WITH A GNRH ANALOG** *SCIENCE*
Dahl, K. D., Bicsak, T. A., Hsueh, A. J.
1988; 239 (4835): 72-74
- **MONITORING THE MENSTRUAL-CYCLE OF HUMANS AND LOWLAND GORILLAS BASED ON URINARY PROFILES OF BIOACTIVE FOLLICLE-STIMULATING-HORMONE AND STEROID METABOLITES** *JOURNAL OF CLINICAL ENDOCRINOLOGY & METABOLISM*
Dahl, K. D., Czekala, N. M., Lim, P., Hsueh, A. J.
1987; 64 (3): 486-493
- **EFFECT OF DIVERSE MAMMALIAN GONADOTROPINS ON ESTROGEN AND PROGESTERONE PRODUCTION BY CULTURED RAT GRANULOSA-CELLS** *ARCHIVES OF BIOCHEMISTRY AND BIOPHYSICS*
Hsueh, A. J., Erickson, G. F., PAPKOFF, H.
1983; 225 (2): 505-511