



• Innovative Sperm Quality Biomarkers •

## ProAKAP4 / AKAP4 publications (1999-July 2022)

« ProAKAP4 / AKAP4 as a sperm quality and fertility biomarker »

### 2022

**Benderradji H, Barbotin AL, Leroy-Billiard M, Prasivoravong J, Marcelli F, Decanter C, Robin G, Mitchell V, Rigot JM, Bongiovanni A, Sauve F, Buée L, Maurage CA, Cartigny M, Villers A, Prevot V, Catteau-Jonard S, Sergeant N, Giacobini P, Pigny P, Leroy C (2022)** Defining reference ranges for serum anti-Müllerian hormone (AMH) on a large cohort of normozoospermic adult men. *J Clin Endocrinol Metab.* :dgac218. doi: 10.1210/clinem/dgac218. Online ahead of print. PMID: 35396994

**Carracedo S, Briand-Amirat L, Dordas-Perpinyà M, Ramos Escuredo Y, Delcombel R, Sergeant N and Delehedde M (2022)** ProAKAP4 protein marker: towards a functional approach to male fertility. *Animal Reproduction Science (in Press)*.

**Dordas-Perpinya M, Yanez I, Catalan J, Eddarkaoui S, Delehedde M, Sergeant N, Bruyas JF, Briand-Amirat L, and Miró J (2022)** ProAKAP4 concentrations in stallion and donkey: Comparison with kinetic parameters, motility and concentration. *Reproduction in Domestic Animals*. Vol. 57(1):61.

**Dordas-Perpinyà M, Yanez I, Catalan J, Delehedde M, Sergeant N, Bruyas JF, Briand-Amirat L and Miró J (2022)** ProAKAP4 correlation with motion parameters and spermatozoa subpopulations in stallion. *Reproduction in Domestic Animals*. Submitted.

**Dordas-Perpinyà M, Sergeant N, Ruelle I, Bruyas JF, Charreaux C, Michaud S, Carracedo S, Catalán J, Miró J, Delehedde M and Briand-Amirat L (2022)** ProAKAP4 semen concentrations as a valuable marker protein of post-thawed semen quality and bull fertility: a retrospective study. *Veterinary Sciences*. Vol. 9 :224. <https://doi.org/10.3390/vetsci9050224>

**Fatet A, Sergeant N, Dordas-Perpinyà M, Drouet B, Ponthoreau O, Carracedo Vicente S, Bruyas JF, Thorin C, Delehedde M and Briand-Amirat L (2022)** The sperm specific protein proAKAP4 as a marker to evaluate sperm quality and fertility in Bucks. *Reproduction in Domestic Animals*.

**Grande G, Barrachina F, Soler-Ventura A, Jodar M, Mancini F, Marana R, Chiloiro S, Pontecorvi A, Oliva R, and Milardi D (2022)** The Role of Testosterone in Spermatogenesis: Lessons From Proteome Profiling of Human Spermatozoa in Testosterone Deficiency. *Front Endocrinol.* Vol. 13:852661. doi: 10.3389/fendo.2022.852661.

**Kaneda Y, Miyata H, Shimada K, Oyama Y, Iida-Norita R and Ikawa M (2022)** IRGC1, a testis-enriched immunity related GTPase, is important for fibrous sheath integrity and sperm motility in mice. *Dev Biol.* Vol. 488:104-113. doi: 10.1016/j.ydbio.2022.05.011

**Kowalczyk A, Gałęska E and Bubel A (2022)** The concentration of proAKAP4 and other indicators of cryopotential of spermatozoa cryopreserved in extender with holothuroidea extract addition. *Animals*. Vol. 12:521. <https://doi.org/10.3390/ani12040521>

**Liu C, Shen Y, Tang S, Wang J, Zhou Y, Tian S, Wu H, Cong J, He XJ, Jin L, Cao Y and Yang Y (2022)** Homozygous variants in AKAP3 induce asthenoteratozoospermia and male infertility. *Journal of Medical Genetics* Published Online First: 28 February 2022. doi: 10.1136/jmedgenet-2021-108271

**Marques de Almeida AB, Megumy Tsunokawa Hidalgo M, Zito de Moraes FL, Corsi Trautwein LG, Schnitzer J, Dos Santos Silva LA, Rizzoto G, Pinheiro Ferreira JC and Mello Martins MI (2022)** The proAKAP4 concentrations in Nelore bulls' sperm and its relations to FTAI conception rates results. *Rev Bras Reprod Anim.* Vol. 46(2):178-179.

**Martín Hidalgo D, Macías-García B and González-Fernández L (2022)** Different phosphoproteome profiles are observed in boarsemen during hot and cold seasons. *Reproduction in Domestic Animals.* Vol. 57(1):119.

**Riesco MF, Neila-Montero M, Palacín-Martínez C, Montes-Garrido R, Álvarez R; Boixo JC; De Paz P and Anel L and Anel-López L (2022)** Establishment of innovative biomarkers to optimize cooling and cryopreservation protocols in ram sperm. *Reproduction in Domestic Animals.* Vol. 57(1):101.

**Schäfer-Somi S, Colombo M and Luvoni GC (2022)** Canine Spermatozoa—Predictability of Cryotolerance *Animals.* Vol. 12:733. <https://doi.org/10.3390/ani12060733>

**Serrano R, Garcia-Marin LJ and Bragado MJ (2022)** Sperm Phosphoproteome: Unraveling Male Infertility. *Biology (Basel).* Vol. 11(5):659. doi: 10.3390/biology11050659.

**Siena G, Milani C, Contiero B, Maenhoudt C, Robiteau G, Slimani S, Sergeant N, Tired L, Fontbonne A (2022)** Variation of ProAKAP4 concentration among different ejaculates from the same dogs. *Reproduction in Domestic Animals.* In press.

**Zhang M, Chiozzi RZ, Skerrett-Byrne DA, Veenendaal T, Klumperman J, Heck AJR, Nixon B, Helms JB, Gadella BM, Bromfield EG (2022)** High Resolution Proteomic Analysis of Subcellular Fractionated Boar Spermatozoa Provides Comprehensive Insights Into Perinuclear Theca-Residing Proteins. *Front Cell Dev Biol.* Vol 18:10:836208. doi: 10.3389/fcell.2022.836208. eCollection 2022.

**Swathi D, Ramya L, Siddalingappa Archana S, Lavanya M, Krishnappa B, Binsila BK and Selvarajua S (2022)** X chromosome-linked genes in the mature sperm influence semen quality and fertility of breeding bulls. *Gene* Available online 11 July 2022, 146727. <https://doi.org/10.1016/j.gene.2022.146727>

## 2021

**Bastan I and Akcay E (2021)** Quality assessment of frozen bull semen with the precursor A-kinase anchor protein 4 biomarker. *Andrologia* e14164. <https://doi.org/10.1111/and.14164>

**Blommaert D, Sergeant N, Delehedde M, Donnay I, Lejeune JP, Franck T and Serteyn D (2021)** First results about ProAKAP4 concentration in stallion semen after cryopreservation in two different freezing media. *Cryobiology.* Vol. 102:133-135

**Castellano L, Arroyo-Salvo CA, Chiarante N, Alonso CAI, Lottero-Leconte RM, Vernaz ZJ, Navarro M, Mutto A, Osycka-Salut C, Ribeiro ML and Perez-Martinez S (2021)** Evaluation of  $\alpha 5\beta 1$  integrin as a candidate marker for fertility in bull sperm samples. *Theriogenology.* Vol. 168:66-74.

**Chen H, Murray E, Sinha A, Laumas A, Li J, Lesman D, Nie X, Hotaling J, Guo J, Cairns BR, Macosko EZ, Cheng CY and Chen F (2021)** Dissecting mammalian spermatogenesis using spatial transcriptomics. *Cell Rep.* Vol. 37(5):109915. doi: 10.1016/j.celrep.2021.109915.

**Choowong-In P, Sattayasai J, Poodendaen C and Iamsaard S (2021)** Decreased expression of AKAP4 and TyrPho proteins in testis, epididymis, and spermatozoa with low sexual performance of mice induced by modified CUMS. *Andrologia.* e13977. doi: 10.1111/and.13977.

**Choowong-in J, Sattayasai P, Boonchoong C, Poodendaen A, Wu N, Tangrisakda T, Sawatpanich S, Arun S, Uabundit N and Iamsaard S (2021)** Protective effects of Thai *Mucuna pruriens* (L.) DC. var. *pruriens* seeds on sexual behaviors and essential reproductive markers in chronic unpredictable mild stress mice. *Journal of Traditional and Complementary Medicine.* 12(4):402-413 <https://doi.org/10.1016/j.jtcme.2021.12.001>

**Couto-Santos F, Viana AGA, Souza ACF, Dutra AAA, Mendes TAO, Ferreira ATDS, Aguilar JEP, Oliveira LL and Machado-Neves M (2021)** Prepubertal arsenic exposure alters phosphoproteins profile, quality, and fertility of epididymal spermatozoa in sexually mature rats. *Toxicology* 460:152886. doi: 10.1016/j.tox.2021.152886.

**Gamallat G, Fang X, Mai H, Liu X, Li H, Zhou P, Han D, Zheng S, Liao C, Yang M, Li Y, Zuo LD, Sun L, Hu H and Li N (2021)** Bi-allelic mutation in *Fsp1* impairs acrosome vesicle formation and attenuates flagellogenesis in mice. *Redox Biology* Vol. 43 – 101969- <https://doi.org/10.1016/j.redox.2021.101969>

**Gu L, Liu X, Yang J and Bai J (2021)** A new hemizygous missense mutation, c.454T>C (p.S152P), in *AKAP4* gene is associated with asthenozoospermia. *Mol Reprod Dev.* doi: 10.1002/mrd.23529.

**Huffmeyer AA, Pukazhenti BS and Wayne RK (2021)** Differential gene expression patterns in spermatozoa from teratospermic and normospermic domestic cats. *Anim Reprod Sci.* Vol. 226:106698. doi: 10.1016/j.anireprosci.2021.106698.

**Kumaresan A, Elango K, Datta TK and Morrell JM (2021)** Cellular and Molecular Insights Into the Etiology of Subfertility/Infertility in Crossbred Bulls (*Bos taurus* \_ *Bos indicus*): A Review. *Front. Cell Dev. Biol.* 9:696637. doi: 10.3389/fcell.2021.696637

**Le Couazer D and Bencharif D (2021)** Are *AKAP4* and *proAKAP4* Found in Canine Semen? Preliminary Results. *Aspects Nanotechnol* Vol. 3(1):70-75.

**Li R, Tang X, Xu C, Guo Y, Qi L, Li S, Ren Q, Wu J, Chen D (2021)** Circular RNA NF1-419 Inhibits Proliferation and Induces Apoptosis by Regulating Lipid Metabolism in Astrogloma Cells. *Recent Pat Anticancer Drug Discov.* doi: 10.2174/1574892816666210729125802. Online ahead of print.

**Liu C, Tu C, Wang L, Wu H, Houston BJ, Mastrosoa FK, Zhang W, Shen Y, Wang J, Tian S, Meng L, Cong J, Yang S, Jiang Y, Tang S, Zeng Y, Lv M, Lin G, Li J, Saiyin H, He X, Jin L, Touré A, Ray PF, Veltman JA, Shi Q, O'Bryan MK, Cao Y, Tan YQ and Zhang F (2021)** Deleterious variants in X-linked *CFAP47* induce asthenoteratozoospermia and primary male infertility. *Am J Hum Genet.* Vol.108(2):309-323.

**Maitan P, Bromfield E, Stout T, Gadellab B and Leemans B (2021)** A Stallion Spermatozoon's Journey Through the Mare's Genital Tract: in vivo and in vitro Aspects of Sperm Capacitation. *Animal Reproduction Science.* In Press <https://doi.org/10.1016/j.anireprosci.2021.106848>

**Malo C, Carracedo S, Delehede M, Sergeant N and Skidmore L (2021)** Identification of *PROAKAP4* in Dromedary sperm and their correlation with monthly semen parameters. *Reproduction & Fertility.* Vol.2(4):268-279.

**Nabighadim A, Jafarnezhad-Ansariha F, Majidi Zolbin M, Daryabari SS, Fendereski K and Kajbafzadeh AM (2021)** Gene and histomorphology alteration analysis in spermatogenesis arrest mouse model: a probable novel approach for infertility. *Cent. European J. Urol.* Vol:74(1):99-108.

**Oud MS, Houston BJ, Volozonoka L, Mastrosoa FK, Holt GS, Alobaidi BKS, deVries PF, Astuti G, Ramos L, Mclachlan RI, O'Bryan MK, Veltman JA, Chemes HE, Sheth H (2021)** Exome sequencing reveals variants in known and novel candidate genes for severe sperm motility disorders. *Hum Reprod.* 1-21 doi: 10.1093/humrep/deab099. Online ahead of print. PMID: 34089056.

**Scovell JM, Bournat JC, Szafran AT, Solis M, Moore J, Rivera A, Chen CH, Zhang J, Wilken N, Seth A, Jorgez CJ (2021)** *PRSS50* is a testis protease responsible for proper sperm tail formation and function. *Development* Vol.148 (8): dev197558.

**Skerrett-Byrne DA, Anderson AL, Hulse L, Wass C, Dun MD, Bromfield EG, De Iuliis GN, Pyne M, Nicolson V, Johnston SD and Nixon B (2021)** Proteomic analysis of koala (*Phascolarctos cinereus*) spermatozoa and prostatic bodies. *Proteomics* :e2100067. doi: 10.1002/pmic.202100067.

**Song Y, Qi X, Kang J, Wang X, Ou N, Zhu J, Wang S and Liu X (2021)** Identification of new biomarkers in immune microenvironment of testicular germ cell tumour. *Andrologia*. Vol 5:e13986.

**Vockel M, Riera-Escamilla A, Tüttelmann F and Krausz C (2021)** The X chromosome and male infertility. *Hum Genet*. Vol. 140(1):203-215.

**Wang Z, Ding Z, Guan Y, Liu C, Wang L, Shan W, Yang J (2021)** Altered Gene Expression in the Testis of Infertile Patients with Nonobstructive Azoospermia. *Computational and Mathematical Methods in Medicine*, Vol. 2021, Article ID 5533483, 9 pages. <https://doi.org/10.1155/2021/5533483>

**Xu Y, Han Q, Ma C, Wang Y, Zhang P, Li C, Cheng X and Xu H (2021)** Comparative proteomics and phosphoproteomics analysis reveal the possible breed difference in Yorkshire and Duroc boar spermatozoa. *Front Cell Dev Biol*. Vol. 9:652809. doi: 10.3389/fcell.2021.652809. eCollection 2021.

**Yáñez-Ortiz I, Catalán J, Rodríguez-Gil J, Miró J and Yeste M (2021)** Advances in sperm cryopreservation in farm animals: cattle, horse, pig and sheep. *Animal Reproduction Science* Available online 3 December 2021, 106904. <https://doi.org/10.1016/j.anireprosci.2021.106904>

**Zhang M, Bromfield EG, Veenendaal T, Klumperman J, Helms JB, Gadella BM (2021)** Characterization of different oligomeric forms of CRISP2 in the perinuclear theca versus the fibrous tail structures of boar spermatozoa. *Biol Reprod*. Vol. 26:ioab145. doi: 10.1093/biolre/ioab145.

**Zhang X, Sun J, Lu Y, Zhang J, Shimada K, Noda T, Zhao S, Koyano T, Matsuyama M, Zhou S, Wu J, Ikawa M and Liu M (2021)** LRRC23 is a conserved component of the radial spoke that is necessary for sperm motility and male fertility in mice. *BioRxiv preprint* doi: <https://doi.org/10.1101/2021.06.01.446532>

**Zhang G, Li D, Tu C, Meng L, Tan Y, Ji Z, Cheng J, Lu G, Lin G, Zhang H, Sun J, Wang M, Du J and Xu W (2021)** Loss-of-function missense variant of AKAP4 induced male infertility through reduced interaction with QRICH2 during sperm flagella development. *Hum Mol Genet*. ddab234. doi: 10.1093/hmg/ddab234.

## 2020

**Agarwal A, Panner Selvam MK and Baskaran S (2020)** Proteomic Analyses of Human Sperm Cells: Understanding the Role of Proteins and Molecular Pathways Affecting Male Reproductive Health. *Int J Mol Sci*. Vol. 21(5):1621. doi: 10.3390/ijms21051621

**Avidor-Reiss T, Zhang Z and Li XZ (2020)** Sperm Differentiation and Spermatozoa Function: Mechanisms, Diagnostics, and Treatment. *Frontiers in Cell and Developmental Biology*. Vol. 8:219. doi: 10.3389/fcell.2020.00219

**Baro Graf C, Ritagliati C, Stival C, Luque GM, Gentile I, Buffone MG and Krapf D (2020)** Everything you ever wanted to know about PKA regulation and its involvement in mammalian sperm capacitation. *Mol Cell Endocrinol*. 518:110992. doi: 10.1016/j.mce.2020.110992.

**Bircsak KM, Copes LT, King S, Prantner AM, Hwang WT and Gerton GL (2020)** The aryl hydrocarbon receptor mediates sex ratio distortion in the embryos sired by TCDD-exposed male mice. *Reprod Toxicol*. Vol. 94:75-83.

**Caroppo E (2020)** Understanding sperm motility regulation: it's a long road ahead. *Fertil Steril*. 2020 Oct 16:S0015-0282(20)32210-X. doi: 10.1016/j.fertnstert.2020.09.010. Online ahead of print.

**Carracedo S, Loyens A, Eddarkaoui S, Serteyn D, Malo C, Skidmore L, Briand-Amirat L, Barbotin AL, Maurage CA, Delehedde M and Sergeant N (2020)** The sperm specific proAKAP4 polypeptide exhibited conserved functions, localizations and metabolism among mammals. *Animal Reproduction Science*. Vol. 220 :106448 - P88 <https://www.sciencedirect.com/science/article/abs/pii/S0378432020303201>

**Delehedde M, Carracedo S, Duchene B, Demouveau B, Remy G, Kervoaze G, Aubry S, Gevaert MH, Maurage CA, Jonckheere N, Van Seuningen I, Philippe Gosset G, Desseyn JL, Sergeant N and Pichavant M (2020)** Cigarette smoking affects the sperm-specific proAKAP4 concentrations and impairs both spermatogenesis and sperm quality. *Andrology*. Vol. 8 (Suppl. 1):45-46.

**Greither T, Schumacher J, Dejung M, Behre HM, Zischler H, Butter F and Herlyn H (2020)** Fertility Relevance Probability Analysis Shortlists Genetic Markers for Male Fertility Impairment. *Cytogenet Genome Res*. Vol. 25:1-17.

**Griffin R, Swegen A, Baker M, John Aitken R, A Skerrett-Byrne D, Silva Rodriguez A, E Martín-Cano F, Nixon B, J Peña F, Delehedde M, Sergeant N and Gibb Z (2020)** Mass spectrometry reveals distinct proteomic profiles in high- and low-quality stallion spermatozoa. *Reproduction*. 160(5):695-707.

**Han Y, Liang C, Yu Y, Manthari RK, Cheng C, Tan Y, Li X, Tian X, Fu W, Yang J, Yang W, Xing Y, Wang J, Zhang J (2020)** Chronic arsenic exposure lowered sperm motility via impairing ultra-microstructure and key proteins expressions of sperm acrosome and flagellum formation during spermiogenesis in male mice. *Sci Total Environ*. Vol. 734:139233. doi: 10.1016/j.scitotenv.2020.139233.

**Huang Q, Liu Y, Zhang S, Yap YT, Li W, Zhang D, Gardner A, Zhang L, Song S, Hess RA, Zhang Z (2020)** Autophagy core protein ATG5 is required for elongating spermatid development, sperm individualization and normal fertility in male mice. *Autophagy*. Vol. 17:1-15

**Iamsaard S, Arun S, Burawat J, Yannasithinon S, Tongpan S, Bunsueb S, Lapyuneyong N, Choowong-In P, Tangrisakda N, Chaimontri C, Sukhorum W (2020)** Evaluation of antioxidant capacity and reproductive toxicity of aqueous extract of Thai *Mucuna pruriens* seeds. *Journal of Integrative Medicine*. S2095-4964(20)30035-2. doi: 10.1016

**Jagadish N, Devi S, Gupta N, Suri V, and Suri A (2020)** Knockdown of A-kinase anchor protein 4 inhibits proliferation of triple-negative breast cancer cells in vitro and in vivo. *Tumour Biology* 42(4):1-14.

**Langlade C, Buff S, Dias C, Commin L (2020)** Assessment of Optimized Frozen/Thawed Semen Samples in Canines with the New A-Kinase Anchor Protein 4 Precursor Biomarker. *Biopreserv Biobank*. 18(5):409-414.

**Lv C, Larbi A, Memon S, Liang J, Zhao X, Shao Q, Wu G and Quan G (2020)** The proteomic characterization of ram sperm during cryopreservation analyzed by the two-dimensional electrophoresis coupled with mass spectrometry. *Cryobiology*. 14:S0011-2240(20)30189-9.

**Martín-Cano FE, Gaitskell-Phillips G, Ortiz-Rodríguez JM, Silva-Rodríguez A, Román A, Rojo-Domínguez P, Alonso-Rodríguez E, Tapia JA, Gil MC, Ortega-Ferrusola C and Peña FJ (2020)** Proteomic profiling of stallion spermatozoa suggests changes in sperm metabolism and compromised redox regulation after cryopreservation. *Journal of Proteomics*. Vol.221:103765. doi: 10.1016/j.jprot.2020.103765.

**Martín-Cano FE, Gaitskell-Phillips G, Ortiz-Rodríguez JM, Silva A, Gil C, Ortega-Ferrusola C and Peña FJ (2020)** Data set of the proteome of fresh and frozen thawed stallion spermatozoa. *Data in Brief*. Vol. 31:105887.

**Martín-Hidalgo D, Macías-García B, García-Marín LJ, Bragado MJ and González-Fernández L (2020)** Boar spermatozoa proteomic profile varies in sperm collected during the summer and winter. *Anim Reprod Sci*. Vol.219:106513. doi: 10.1016/j.anireprosci.2020.106513.

**Nowicka-Bauer K and Nixon B (2020)** Molecular Changes Induced by Oxidative Stress that Impair Human Sperm Motility. *Antioxidants*. Vol. 134:1-22.

**Panner Selvam MK, Baskaran S, Agarwal A and Henkel R (2020)** Protein profiling in unlocking the basis of varicocele-associated infertility. *Andrologia*. Vol. 53(1):e13645. doi: 10.1111/and.13645.

**Omar MH and Scott JD (2020)** AKAP Signaling Islands: Venues for Precision Pharmacology. *Trends Pharmacol Sci.* Vol. 41(12):933-946

**Ramal-Sanchez M, Bernabo N, Tsikis G, Blache MC, Labas V, Druart X, Mermillod P and Saint-Dizier M (2020)** Progesterone induces sperm release from oviductal epithelial cells by modifying sperm proteomics, lipidomics and membrane fluidity. *Mol Cell Endocrinol.* Vol. 504:110723. doi: 10.1016/j.mce.2020.110723.

**Riesco M, Anel-Lopez L, Neila-Montero M, Palacin-Martinez C, Montes-Garrido R, Alvarez M, de Paz P, Anel L (2020)** ProAKAP4 as Novel Molecular Marker of Sperm Quality in Ram: An Integrative Study in Fresh, Cooled and Cryopreserved Sperm. *Biomolecules.* 10(7):1046. doi: 10.3390/biom10071046.

**Ruelle I, Sergeant N, Bencharif D, Charreaux F, Thorin C, Michaud S, Dordas-Perpinyà M, Jouy N, Audry S, Maurage CA, Delehedde M and Briand-Amirat L (2020)** ProAKAP4 concentrations in semen as a predictive tool of bull fertility: A preliminary study. *Reproduction, Fertility and Development.* 32(1):145.

**Sadakierska-Chudy A, Patrylak J, Janeczko J and Chudy J (2020)** Downregulation of gene expression and the outcome of ICSI in severe oligozoospermic patients: A preliminary study. *Mol Reprod Dev.* Nov 25. doi: 10.1002/mrd.23442.

**Sergeant N, Blommaert D, Carracedo S, Franck T, Lejeune JP, Gevaert MH, Aubry S, Maurage CA, Serteyn D and Delehedde M (2020)** Assessment of the proAKAP4 concentrations as a pertinent sperm parameter to select extenders and preservatives of stallion semen. *Animal Reproduction Science.* Vol. 220 :106449. <https://www.sciencedirect.com/science/article/abs/pii/S0378432020303213#!>

**Sergeant N, Carracedo S, Blommaert D, Aubry S, Jouy N, Lejeune JP, Franck T, Maurage CA, Serteyn D, Buée L and Delehedde M (2020)** Proteolysis of proAKAP4 in semen as a regulatory sensor of sperm quality and functionality. *Andrology.* Vol. 8 (Suppl. 1):44-45.

**Shami AN, Zheng X, Munyoki SK, Ma Q, Manske GL, Green CD, Sukhwani M, Orwig KE, Li JZ and Hammoud SS (2020)** Single-Cell RNA Sequencing of Human, Macaque, and Mouse Testes Uncovers Conserved and Divergent Features of Mammalian Spermatogenesis. *Dev Cell.* 54(4):529-547.

**Silva JV, Freitas MJ, Santiago J, Jones S, Guimarães S, Vijayaraghavan S, Publicover S, Colombo G, Howl J, Fardilha M (2020)** Disruption of protein phosphatase 1 complexes with the use of biopeptides as a novel approach to target sperm motility. *Fertil Steril.* 2020 Sep 22:S0015-0282(20)30767-6. doi: 10.1016/j.fertnstert.2020.08.013. Online ahead of print.

**Syifa N, Yang JT, Wu CS, Lin MH, Wu WL, Lai CW, Ku SH, Liang SY, Hung YC, Chou CT, Wang CS, Ishihama Y, Liao JH, Wu SH, Wu TH (2020)** Phosphoproteomics and Bioinformatics Analyses Reveal Key Roles of GSK-3 and AKAP4 in Mouse Sperm Capacitation. *Int J Mol Sci.* 21(19):7283. doi: 10.3390/ijms21197283.

**Tian F, Wang J, Li Y, Yang C, Zhang R, Wang X, Ju Z, Jiang Q, Huang J, Wang C, Chen J and Sun Y (2020)** Integrated analysis of mRNA and miRNA in testis and cauda epididymidis reveals candidate molecular markers associated with reproduction in Dezhou donkey. *Livestock Science* Vol. 234, 103885.

**Tu C, Wang W, Hu T, Lu G, Lin G and Tan YQ (2020)** Genetic underpinnings of asthenozoospermia. *Best Pract Res Clin Endocrinol Metab.* 2020 Nov 6:101472. doi: 10.1016/j.beem.2020.101472. Online ahead of print.

**Wang WL, Tu CF and Tan YQ (2020)** Insight on multiple morphological abnormalities of sperm flagella in male infertility: what is new? *Asian Journal of Andrology* Vol. 22:236–245.

**Wu S, Mipam T, Xu C, Zhao W, Shah MA, Yi C, Luo H, Cai X, Zhong J (2020)** Testis transcriptome profiling identified genes involved in spermatogenic arrest of cattleyak. *PLoS One.* 15(2):e0229503.

**Wu YQ, Rao M, Hu SF, Ke DD, Zhu CH and Xia W (2020)** Effect of transient scrotal hyperthermia on human sperm: an iTRAQ-based proteomic analysis. *Reprod Biol Endocrinol.* Vol. 18(1):83.

**Xu K, Yang L, Zhang L and Qi H (2020)** Lack of AKAP3 disrupts integrity of the subcellular structure and proteome of mouse sperm and causes male sterility. *Development*. Vol. 147(2). doi: 10.1242/dev.181057.

**Zhang S, Liu Y, Huang Q, Yuan S, Liu H, Shi L, Yap YT, Li W, Zhen J, Zhang L, Hess RA and Zhang Z (2020)** Murine germ cell-specific disruption of lft172 causes defects in spermiogenesis and male fertility. *Reproduction*. doi: 10.1530/REP-17-0789.

## 2019

**Blommaert D, Franck T, Lejeune JF, Selleslagh M, Jouy N, Sergeant N, Serteyn D and Delehedde M (2019a)** The Horse 4MID® Kit as a promising tool to compare different freezing media to preserve stallion semen. *Rev. Bras. Reprod. Anim. Vol 43(2):585*.

**Blommaert D, Sergeant N, Delehedde M, Jouy N, Mitchell V, Franck T, Donnay I, Lejeune JP and Serteyn D (2019b)** Expression, localization, and concentration of A-kinase anchor protein 4 (AKAP4) and its precursor (proAKAP4) in equine semen: promising marker correlated to the total and progressive motility in thawed spermatozoa. *Theriogenology*. Vol. 131:52-60.

**Delehedde M, Carracedo S, Selleslagh M, Eddarkaoui S, Amirat-Briand L and Sergeant N (2019)** ProAKAP4 polypeptide as a biomarker of sperm functionality and male fertility disorders. *Int J Gynecol and Reprod Sci*. Vol. 2(1):13-19.

**Delehedde M, Demouveau B, Remy G, Selleslagh M, Dewulf Q, Desseyn JL, Moreau M, Gosset P, Muriel Pichavant M and Sergeant N (2019a)** ProAKAP4 concentrations as an indicator of good spermatogenesis and sperm quality under oxidative stress conditions. *Andrology*. Vol. 7(1):86.

**Delehedde M, Demouveau B, Remy G, Desseyn JL, Mitchell V, Barbotin AL, Gosset P, Pichavant M and Sergeant N (2019b)** Evaluation of the proAKAP4 detection kits as functional tests of sperm quality under stress conditions. *ESHRE Meeting 2019*

**Dewulf Q, Briand-Amirat L, Eddarkaoui S, Chambonnet F, Delehedde M and Sergeant N (2019)** The effects of freeze-thaw cycles and of storage time on the stability of proAKAP4 polypeptide in raw sperm samples: implications for semen analysis assessment in breeding activities. *Journal of Dairy & Veterinary Sciences*. Vol. 13(3):1-7.

**Ernst C, Eling N, Martinez-Jimenez C P, Marion J C and Odom DT (2019)**. Staged developmental mapping and X chromosome transcriptional dynamics during mouse spermatogenesis. *Nat. Commun*. 10, 1251.

**Fang X, Huang LL, Xu J, Ma CQ, Chen ZH, Zhang Z, Liao CH, Zheng SX, Huang P, Xu WM, Li N, Sun L (2019)** Proteomics and single-cell RNA analysis of Akap4-knockout mice model confirm indispensable role of Akap4 in spermatogenesis. *Developmental Biology*. 454(2):118-127.

**Fu Q, Pan L, Huang D, Wang Z, Hou Z and Zhang M (2019)** Proteomic profiles of buffalo spermatozoa and seminal plasma. *Theriogenology*. Vol. 134:74-82.

**He X, Li W, Wu H, Lv M, Liu W, Liu C, Zhu F, Li C, Fang Y, Yang C, Cheng H, Zhang J, Tan J, Chen T, Tang D, Song B, Wang X, Zha X, Wang H, Wei Z, Yang S, Saiyin H, Zhou P, Jin L, Wang J, Zhang Z, Zhang F and Cao Y (2019)** Novel homozygous CFAP69 mutations in humans and mice cause severe asthenoteratospermia with multiple morphological abnormalities of the sperm flagella. *Journal of Medical Genetics*. Vol. 6(2):96-103.

**Huang L and Huang P (2019)** Role of outer dense fiber in multiple morphological abnormalities of the sperm flagella in Akap4 gene defect mice. *Zhong Nan Da Xue Xue Bao Yi Xue Ban*. Vol.28;44(12):1367-1375.

**Huang Y, Ha S, Li Z, Li J and Xiao W (2019)** CHK1-CENP B/MAD2 is associated with mild oxidative damage-induced sex chromosome aneuploidy of male mouse embryos during in vitro fertilization. *Free Radic Biol Med*. Vol. 137:181-193.

- Le Couazer D, Delehedde M, Ruelle I, Sergeant N, Michaud S, Briand L and Bencharif D (2019a)** ProAKAP4 as a valuable marker to assess sperm quality in dogs. *Reproduction in Domestic Animals*. Vol 54(2):91-92.
- Le Couazer D, Sergeant N, Jouy N, Michaud S, Loyens A, Delehedde M, Amirat-Briand L and Bencharif D (2019b)**. Expression of proAKAP4 in dog semen as promising marker of sperm quality. *Reproduction in Domestic Animal*. Vol 54(S3):73.
- Liang C, He Y, Liu Y, Gao Y, Han Y, Li X, Zhao Y, Wang J and Zhang J (2019)** Fluoride exposure alters the ultra-structure of sperm flagellum via reducing key protein expressions in testis. *Chemosphere*. Vol. 246:125772.
- Liu W, Wu H, Wang L, Yang X, Liu C and He X (2019)** Homozygous loss-of-function mutations in FSIP2 cause male infertility with asthenoteratospermia. *Journal of Genetics and Genomics*. Vol. 46(1):53-56.
- Liu F, Liu X, Liu X, Li T, Zhu P, Liu Z, Xue H, Wang W, Yang X, Liu J and Han W (2019)** Integrated Analyses of Phenotype and Quantitative Proteome of CMTM4 Deficient Mice Reveal Its Association with Male Fertility. *Mol Cell Proteomics*. Vol18(6):1070-1084.
- Lorès P, Dacheux D, Kherraf ZE, Nsota Mbango JF, Coutton C, Stouvenel L, Ialy-Radio C, Amiri-Yekta A, Whitfield M, Schmitt A, Cazin C, Givelet M, Ferreux L, Fourati Ben Mustapha S, Halouani L, Marrakchi O, Daneshpour A, El Khouri E, Do Cruzeiro M, Favier M, Guillonneau F, Chaudhry M, Sakheli Z, Wolf JP, Patrat C, Gacon G, Savinov SN, Hosseini SH, Robinson DR, Zouari R, Ziyat A, Arnoult C, Dulioust E, Bonhivers M, Ray PF and Touré A (2019)** Mutations in TTC29, Encoding an Evolutionarily Conserved Axonemal Protein, Result in Asthenozoospermia and Male Infertility. *Am J Hum Genet*. Vol. 105(6):1148-1167.
- Nsota Mbango JF, Coutton C, Arnoult C, Ray PF and Touré A (2019)** Genetic causes of male infertility: snapshot on morphological abnormalities of the sperm flagellum. *Basic Clin. Androl*. Vol. 29 :2. <https://doi.org/10.1186/s12610-019-0083-9>
- Nixon B, Johnston SD, Skerrett-Byrne DA, Anderson AL, Stanger SJ, Bromfield EG, Martin JH, Hansbro PM and Dun MD (2019a)** Modification of crocodile spermatozoa refutes the tenet that post-testicular sperm maturation is restricted to mammals. *Mol Cell Proteomics*. Vol. 18:59-76.
- Nixon B, Bernstein I, Cafe SL, Delehedde M, Sergeant S, Eamens AL, Lord T, Dun MD, De Iuliis GN and Bromfield EG (2019b)** A Kinase Anchor Protein 4 is vulnerable to oxidative adduction in male germ cells. *Frontiers in Cell and Developmental Biology* – Vol. 7:319.
- Panner Selvam MK, Agarwal A and Pushparaj PN (2019)** A quantitative global proteomics approach to understanding the functional pathways dysregulated in the spermatozoa of asthenozoospermic testicular cancer patients. *Andrology*. 2019 Jul;7(4):454-462. doi: 10.1111/andr.12620.
- Pérez-Patiño C, Li J, Barranco I, Martínez EA, Rodríguez-Martínez H, Roca J and Parrilla I (2019)** The proteome of frozen-thawed pig spermatozoa is dependent on the ejaculate fraction source. *Sci Rep*. Vol 9(1):705. doi: 10.1038/s41598-018-36624-5.
- Ruelle I, Charreaux F, Bencharif D, Thorin C, Michaud S, Schmitt E, Sergeant N, Briand-Amirad L and Delehedde M (2019)** Assessment of the sperm specific protein proAKAP4 as a marker to evaluate sperm quality and fertility in Holstein bulls. *Rev. Bras. Reprod. Anim*. Vol.43(2):472.
- Sajeevadathan M, Pettitt MJ and Buhr M (2019)** Interaction of ouabain and progesterone on induction of bull sperm capacitation. *Theriogenology*. Vol. 126:191-198.
- Sergeant N, Briand-Amirat L, Bencharif D and Delehedde M (2019)** The sperm specific protein proAKAP4 as an innovative marker to evaluate sperm quality and fertility. *Journal of Dairy & Veterinary Sciences*. Vol. 11:01-19.



**Singh R, Junghare V, Hazra S, Singh U, Sengar GS, Raja TV, Kumar S, Tyagi S, Das A K, Kumar A, Koringa P, Jakhesara S, Joshi CJ and Deb R (2019)** Database on spermatozoa transcriptogram of catagorised Frieswal crossbred (Holstein Friesian X Sahiwal) bulls. *Theriogenology*. Vol. 129:130-145.

**Urizar-Arenaza I, Osinalde N, Akimov V, Puglia M, Candenos L, Pinto FM, Muñoz-Hoyos I, Gianzo M, Matorras R, Irazusta J, Blagoev B, Subiran N, Kratchmarova I (2019)** Phosphoproteomic and Functional Analyses Reveal Sperm-specific Protein Changes Downstream of Kappa Opioid Receptor in Human Spermatozoa. *Mol Cell Proteomics*. Vol.18(Suppl 1):S118-S131.

**Wu F, Yin Z, Yang L, Fan J, Xu J, Jin Y, Yu J, Zhang D and Yang G (2019)** Smoking Induced Extracellular Vesicles Release and Their Distinct Properties in Non-Small Cell Lung Cancer. *J Cancer*. Vol.10(15):3435-3443.

**Zhang J, Drabovich A, Jarvi K, Fisher A, Moskovtsev S and Librach C (2019)** Evaluation of acrosome- and tail-specific proteins ACRV1 and AKAP4 as biomarkers for sperm selection: a potential novel methodology to select rare and best quality sperm. *Andrology*. Vol. 7(1):90.

## 2018

**Balbach M, Beckert V, Hansen JN and Wachten D (2018)** Shedding light on the role of cAMP in mammalian sperm physiology. *Molecular and Cellular Endocrinology*. Vol. 468:111-120.

**Blommaert D, Sergeant N, Delehedde M, Franck T, Lejeune JP and Serteyn D (2018)** Significant correlation between the proAKAP4 concentration and the total and progressive motility in stallion sperm after thawing. *Journal of Equine Veterinary Science*. Vol. 66:43.

**Castillo J, Jodar M and Oliva R (2018)** The contribution of human sperm proteins to the development and epigenome of the preimplantation embryo. *Hum Reprod Update*. 24(5):535-555.

**Champroux A, Cocquet J, Henry-Berger J, Drevet JR and Kocer A (2018)** A decade of exploring the mammalian sperm epigenome: paternal epigenetic and transgenerational inheritance. *Frontiers in Cell and Developmental Biology*. Vol. (6)50:1-19.

**Chemes (2018)** Phenotypic varieties of sperm pathology: genetic abnormalities or environmental influences can result in different patterns of abnormal spermatozoa. *Animal Reproduction Science*. Vol. 194:41-56.

**Delehedde M, Blommaert D, Jouy N, Scabello J, Miersman H, Franck T, Serteyn D, Mitchell V, and Sergeant S (2018)** Concentration of proAKAP4 as a pertinent read-out of sperm quality in mammals. *Animal Reproduction Science*. Vol. 194:24.

**Drabovich AP, Zhang J, Kanoatov M, Moskovtsev S and Librach CL (2018)** Identification of testis- and germ cell-specific proteins as biomarkers of spermatogenesis and targets for sperm selection. *Fertility and Sterility*. Vol. 110(4):306-307.

**Huang S, Cao S, Zhou T, Kong L and Liang G (2018)** 4-tert-octylphenol injures motility and viability of human sperm by affecting cAMP-PKA/PKC-tyrosine phosphorylation signals. *Environmental Toxicology and Pharmacology*. Vol. 62:234-243.

**Jumeau F, Sigala J, Dossou-Gbete F, Frimat K, Barbotin AL, Buée L, Béhal H, Sergeant N and Mitchell V (2018)** A-kinase anchor protein 4 precursors (pro-AKAP4) in human sperm. *Andrology*. Vol. (6):854-859.

**Jumeau F, Sigala J, Fernandez-Gomez FJ, Eddarkaoui S, Duban-Deweer S, Buée L, Béhal H, Sergeant N and Mitchell V (2018)** Gel electrophoresis of human sperm: a simple method for evaluating sperm protein quality. *Basic Clinical Andrology*. Vol. (28)10:1-8.

**Li L, Sha Y-W, Su Z-Y, Mei L-B, Ji Z-Y, Zhang Q, Lin S-B, Wang X, Qiu P-P, Li P and Yin C (2018)** A novel mutation in HAUS7 results in severe oligozoospermia in two brothers. *Gene*. Vol. 639:106-10.

**Li X, Linqing Z, Jieli F, Lirui W, Qiangzhen Y, Peifei L and Yuhua L (2018)** Quantitative proteomic profiling indicates the difference in reproductive efficiency between Meishan and Duroc boar spermatozoa. *Theriogenology*. Vol. 116:71-82.

**Martinez G, Kherraf Z-E, Zouari R, Fourati Ben Mustapha S, Saut A, Pernet-Gallay K, Bertrand A, Bidart M, Hograindleur J-P, Amiri-Yekta A, Kharouf M, Karaouzène T, Thierry-Mieg N, Dacheux-Deschamps D, Satre V, Bonhivers M, Touré A, Arnoult C, F. Ray P and Coutton C. (2018)** Whole-exome sequencing identifies mutations in FSIP2 as a recurrent cause of multiple morphological abnormalities of the sperm flagella. *Human Reproduction*. Vol. 33(10):1973-84.

**Nowicka-Bauer K, Lepczynski A, Ozgo M, Kamieniczna M, Fraczek M, Stanski L, Olszewska M, Malcher A, Skrzypczak W and Kurpisz MK (2018)** Sperm mitochondrial dysfunction and oxidative stress as possible reasons for isolated asthenozoospermia. *J Physiol Pharmacol*. Vol. 69(3). doi: 10.26402/jpp.2018.3.05.

**Nowicka-Bauer K, Ozgo M, Lepczynski A, Kamieniczna M, Malcher A, Skrzypczak W, Kurpisz M (2018)** Human sperm proteins identified by 2-dimensional electrophoresis and mass spectrometry and their relevance to a transcriptomic analysis. *Reproductive Biology*. Vol. 18(2):151-60.

**Panner Selvam MK and Agarwal A (2018)** Update on the proteomics of male infertility: a systematic review. *Arab Journal of Urology*. Vol. 16(1):103-112.

**Stival C, Ritagliati C, Xu X, Gervasi MG, Luque GM, Baró Graf C, De la Vega-Beltrán JL, Torres N, Darszon A, Krapf D, Buffone MG, Visconti PE, Krapf D (2018)** Disruption of protein kinase A localization induces acrosomal exocytosis in capacitated mouse sperm. *J Biol Chem*. Vol. 293(24):9435-9447.

**Ugarelli A, Medranda B, Santiani A and Evangelista-Vargas S (2018)** Identification of six genes related to fertility in alpacas. *Animal Reproduction Science*. Vol. 194:12-3.

**Wu H, Li W, He X, Liu C, Fang Y, Zhu F, Jiang H, Liu W, Song B, Wang X, Zhou P, Wei Z, Zhang F and Cao Y (2018)** Novel CFAP43 and CFAP44 mutations cause male infertility with multiple morphological abnormalities of the sperm flagella (MMAF). *Reproductive BioMedicine Online*. Vol. 38:769-778.

**Xie C, Shen H, Zhang H, Yan J, Liu Y, Yao F, Wang X, Cheng Z, Tang T-S and Guo C (2018)** Quantitative proteomics analysis reveals alterations of lysine acetylation in mouse testis in response to heat shock and X-ray exposure. *Biochimica et Biophysica Acta (BBA) - Proteins and Proteomics*. Vol. 1866(3):464-72.

## 2017

**Card CJ, Krieger KE, Kaproth M and Sartini BL (2017)** Oligo-dT selected spermatozoal transcript profiles differ among higher and lower fertility dairy sires. *Anim Reprod Sci*. Vol. 177:105-123.

**Gorshkov K, Mehta S, Ramamurthy S, Ronnett G, Zhou FQ and Zhang J (2017)** AKAP-mediated feedback control of cAMP gradients in developing hippocampal neurons. *Nature Chemical Biology*. Vol. 13:425-432.

**Intasqui P, Agarwal A, Sharma R, Samanta L and Bertolla RP (2017)** Towards the identification of reliable sperm biomarkers for male infertility: a sperm proteomic approach. *Andrologia*. Vol. 50(3) :1-11.

**Légaré C, Akintayo A, Blondin P, Calvo E and Sullivan R (2017)** Impact of male fertility status on the transcriptome of the bovine epididymis. *Molecular Human Reproduction*. Vol. 1:1-15.

**Pelz L, Purfürst B and Rathjen FG (2017)** The cell adhesion molecule BT-IgSF is essential for a functional blood-testis barrier and male fertility in mice. *J Biol Chem*. Vol.292(52):21490-21503.

**Pereira R, Sá R, Barros A and Sousa M (2017)** Major regulatory mechanisms involved in sperm motility. *Asian Journal of Andrology*. Vol. 19:5-14.

**Tang S, Wang X, Li W, Yang X, Li Z, Liu W, Li C, Zhu Z, Wang L, Wang J, Zhang L, Sun X, Zhi E, Wang H, Li H, Jin L, Luo Y, Wang J, Yang S and Zhang F (2017)** Bi allelic mutations in CFAP43 and CFAP44 cause male infertility with multiple morphological abnormalities of the sperm flagella. *The American Journal of Human Genetics*. Vol. 100:854-864.

**Viera Silva J, Yoon S, De Bock P, Goltsev A, Gevaert K, Mendes J and Fardilha M (2017)** Construction and analysis of a human testis/sperm-enriched interaction network: unraveling the PPP1CC2 interactome. *Biochimica Biophysica Acta*. Vol. 1861:375-385.

**Westfalewicz B, Dietrich MA, Mostek A, Partyka A, Bielas W, Nizański W and Ciereszko A (2017)** Identification and functional analysis of bull (*Bos taurus*) cauda epididymal fluid proteome. *American Dairy Science Association*. Vol. 100:6707-6719.

## 2016

**Barbonetti A, Castellini C, Di Giammarco N, Santilli G, Francavilla S and Francavilla F (2016)** *In vitro* exposure of human spermatozoa to bisphenol A induces pro-oxidative/apoptotic mitochondrial dysfunction. *Reproductive Toxicology*. Vol. 66:61-67.

**Barrier-Battut I, Kempfer A, Becker J, Lebailly L, Camugli S and Chevrier L (2016)** Development of a new fertility prediction model for stallion semen, including flow cytometry. *Theriogenology*. Vol. 86:1111-1131.

**Bayram H, Claydon A, Brownridge P, Hurst J, Mileham A, Stockley P, Beynon R and Hammond D (2016)** Cross-species proteomics in analysis of mammalian sperm proteins. *Journal of Proteomics*. Vol. 135:38-55.

**Ben-Navi LR, Almog T, Yao Z, Seger R and Naor Z (2016)** A-kinase anchoring protein 4 (AKAP4) is an ERK1/2 substrate and a switch molecule between cAMP/ PKA and PKC/ERK1/2 in human spermatozoa. *Scientific Reports*. Vol. 6:37922-37935.

**Cui Z, Sharma R and Agarwal A (2016)** Proteomic analysis of mature and immature ejaculated spermatozoa from fertile men. *Asian Journal of Andrology*. Vol. 18:735-746.

**Dacheux JL, Dacheux F and Druart X (2016)** Epididymal protein markers and fertility. *Animal Reproduction Science*. Vol. 169:76-87.

**Dyer S, Chambers GM, de Mouzon J, Nygren KG, Zegers-Hochschild F, Mansour R, Ishihara O, Banker M and Adamson GD (2016)** International committee for monitoring assisted reproductive technologies world report: assisted reproductive technology 2008, 2009 and 2010. *Human Reproduction*. Vol. 31(7):1588-1609.

**Jodar M, Soler-Ventura A and Oliva R (2016)** Semen proteomics and male infertility. *Journal of Proteomics*. Vol. 162:125-134.

**Moretti E, Pascarelli N, Belmonte G, Renieri T and Collodel G (2016)** Sperm with fibrous sheath dysplasia and anomalies in head-neck junction: focus on centriole and centrin 1. *Andrologia*. Vol. 1:01-06.

**Neto FT, Bach PV, Najari BB, Li PS and Goldstein M (2016)** Spermatogenesis in humans and its affecting factors. *Seminars in Cell and Developmental Biology*. Vol. 59:10-26.

**Quaynor S, Bosley M, Duckworth C, Porter K, Kim SH, Kim HG, Chorich LP, Sullivan ME, Choi JH, Cameron RS and Layman LC (2016)** Targeted next generation sequencing approach identifies nineteen new candidate genes in normosmic hypogonadotropic hypogonadism and Kallmann syndrome. *Molecular and Cellular Endocrinology*. Vol. 437:86-96.

**Samanta L, Swain N, Ayaz A, Venugopal V and Agarwal A (2016)** Post-translational modifications in sperm proteome: the chemistry of proteome diversifications in the pathophysiology of male factor infertility. *Biochimica et Biophysica Acta*. Vol. 1860:1450-1465.

**Sarkar H, Arya S, Rai U and Majumdar S (2016)** A study of differential expression of testicular genes in various reproductive phases of hemidactylus flaviviridis (Wall Lizard) to derive their association with onset of spermatogenesis and its relevance to mammals. *PLOS ONE*. Vol. 11:01-18.

**Sergeant N, Jumeau F, Eddarkaoui S, Sigala J, Dossou GF, Delehedde M, Buee L, Yvoz JF and Mitchell V (2016)** Investigating proteomic methods and tools to assess sperm quality. *Animal Reproduction Science*. Vol. 169:99-135.

**Sikka S and Hellstrom W (2016)** Current updates on laboratory techniques for the diagnosis of male reproductive failure. *Asian Journal of Andrology*. Vol. 18:1-10.

## 2015

**Agarwal A, Sharma R, Durairajanayagam D, Cui Z, Ayaz A, Gupta S, Willard B, Gopalan B and Sabanegh E (2015a)** Differential proteomic profiling of spermatozoal proteins of infertile men with unilateral or bilateral varicocele. *Urology*. Vol. 85:580-589.

**Agarwal A, Tvrdá E, Sharma R, Gupta S, Ahmad G and Sabanegh ES (2015b)** Spermatozoa protein profiles in cryobanked semen samples from testicular cancer patients before treatment. *Fertility and Sterility*. Vol. 104:260.

**Baker MA, Weinberg A, Hetherington L, Villaverde AI, Velkov T, Baell J and Gordon CP (2015)** Defining the mechanisms by which the reactive oxygen species by-product, 4-hydroxynonenal, affects human sperm cell function. *Biology of Reproduction*. Vol. 92(4):108.

**Dema A, Perets A, Schulz M, Deák V and Klussmann E (2015)** Pharmacological targeting of AKAP-directed compartmentalized cAMP signalling. *Cellular Signalling*. Vol. 27:2474-2487.

**Dobrynin P, Liu S, Tamazian G, Xiong Z, Yurchenko A, Krasheninnikova K, Kliver S, Schmidt-Küntzel A, Koepfli KP, Johnson W, Kuderna L, García-Pérez R, Manuel M, Godinez R, Komissarov A, Makunin A, Brukhin V, Qiu W, Zhou L, Li F, Yi J, Driscoll C, Antunes A, Oleksyk T, Eizirik E, Perelman P, Roelke M, Wildt D, Diekhans M, Marques-Bonet T, Marker L, Bhak J, Wang J, Zhang G and O'Brien J (2015)** Genomic legacy of the African cheetah, *Acinonyx jubatus*. *Genome Biology*. Vol. 16:277-297.

**Hashemitabar M, Sabbagh S, Orazizadeh M, Ghadiri A and Bahmanzadeh M (2015)** A proteomic analysis on human sperm tail: comparison between normozoospermia and asthenozoospermia. *Journal of Assisted Reproduction and Genetics*. Vol. 32:853-863.

**Janmeda M and Menaka R (2015)** Molecular markers for farm animals male fertility-short review. *International Journal of Agricultural Sciences and Veterinary Medicine*. Vol. 3:2320-3730.

**Jodar M, Sandler E, Moskovtsev S, Librach C, Goodrich R, Swanson S, Hauser R, Diamond M and Krawetz S (2015)** Absence of sperm RNA elements correlates with idiopathic male infertility. *Science Translational Medicine*. Vol. 7:295-303.

**Kasvandik S, Sillaste G, Velthut-Meikas, Mikelsaar AV, Hallap T, Padrik P, Tenson T, Jaakma U and Salumets A (2015)** Bovine sperm plasma membrane proteomics through biotinylation and subcellular enrichment. *Proteomics*. Vol. 15:1906-1920.

**Labas V, Belleannee C, Spina L, Teixeira-Gomes AP, Gargaros A, Dacheux F and Dacheux JL (2015)** Analysis of epididymal sperm maturation by MALDI profiling and top-down mass spectrometry. *Journal of Proteomics*. Vol. 113:226-243.

**Luangpraseuth-Prosper A, Lesueur E, Jouneau L, Pailhoux E, Cotinot C and Mandon-Pépin B (2015)** TOPAZ1, a germ cell specific factor, is essential for male meiotic progression. *Developmental Biology*. Vol.406:158-171.

**Naresh S and Atreja SK (2015)** The protein tyrosine phosphorylation during *in vitro* capacitation and cryopreservation of mammalian spermatozoa. *Cryobiology*. Vol. 70:211-216.

**Peirce K, Roberts P, Ali J and Matson P (2015)** The preparation and culture of washed human sperm: a comparison of a suite of protein-free media with media containing human serum albumin. *Asian Pacific Journal of Reproduction*. Vol. 4:222-227.

**Pereira R, Oliveira J, Ferraz L, Barros A, Santos R and Sousa M (2015)** Mutation analysis in patients with total sperm immotility. *Journal of Assisted Reproduction and Genetics*. Vol. 32:893-902.

**Vizel R, Hillman P, Ickowicz D and Breitbart H (2015)** AKAP3 degradation in sperm capacitation is regulated by its tyrosine phosphorylation. *Biochimica Biophysica Acta*. Vol. 1850:1912-1920.

**Yang SM, Hou JQ, Wen DG, Li HB, Wang JX, Shi YC, Cheng HB, Wang W and Li H (2015)** Morphological characteristics and initial genetic study of multiple morphological anomalies of the flagella in China. *Asian Journal of Andrology*. Vol. 17:513-515.

**Zhou T, Xia X, Liu J, Wang G, Guo Y, Guo X, Wang X and Sha J (2015)** Beyond single modification: reanalysis of the acetyl proteome of human sperm reveals widespread multiple modifications. *Journal of Proteomics*. Vol. 126:296-302.

## 2014

**Beydola T, Sharma R and Agarwal A (2014)** Sperm preparation and selection techniques. Chap. 29:245-251.

**Buffone M, Wertheimer E, Visconti P and Krapf D (2014)** Central role of soluble adenylyl cyclase and cAMP in sperm physiology. *Biochimica et Biophysica Acta*. Vol. 1842:2610-2620.

**Chen X, Zhu H, Hu C, Ha H, Zhang J, Li K, Zhao X, Qin T, Zhao K, Zhu H and Wang D (2014)** Identification of differentially expressed proteins in fresh and frozen-thawed boar spermatozoa by itraq-coupled 2d lc-ms/ms. *Reproduction* Vol. 147: 321–330.

**Chung JJ, Shim SH, Everley R, Gygi S, Zhuang X and Clapham D (2014)** Structurally distinct Ca<sup>2+</sup> signaling domains of sperm flagella orchestrate tyrosine phosphorylation and motility. *Cell*. Vol. 157:808-822.

**Dias GM, López ML, Ferreira AT, Chapeaurouge DA, Rodrigues A, Perales J and Retamal CA (2014)** Thiol-disulfide proteins of stallion epididymal spermatozoa. *Anim Reprod Sci*. Vol.145(1-2):29-39.

**Djureinovic D, Fagerberg L, Hallstrom B, Danielsson A, Lindskog C, Uhlen M and Ponten F (2014)** The human testis-specific proteome defined by transcriptomics and antibody-based profiling. *Molecular Human Reproduction*. Vol. 20:476-488.

**Frapsauce C, Pionneau C, Bouley J, Delarouziere V, Berthaut I, Ravel C, Antoine JM, Soubrier F and Mandelbaum J (2014)** Proteomic identification of target proteins in normal but non fertilizing sperm. *Fertility and Sterility*. Vol. 102:372-381.

**Ijiri TW, Vadnais ML, Huang AP, Lin AM, Levin LR, Buck J and Gerton G (2014)** Thiol changes during epididymal maturation: a link to flagellar angulation in mouse spermatozoa? *Andrology*. Vol. 2:65-75.

**Kurpisz M, Waclawska A, Rozwadowska N, Stokowy T and Zietkowiak W (2014)** Novel gene biomarkers of spermatogenesis potential for spermatogenesis assessment and treatment monitoring. *Fertility and Sterility*. Vol. 102:349.

**Labas V, Spina L, Teixeira-Gomes AP, Belleanne C, Dacheux F, Gargaros A and Dacheux JL (2014)** Data in support of peptidomic analysis of spermatozoa during epididymal maturation. *Data in Brief*. Vol. 1:79-84.

**Légaré C, Droit A, Fournier F, Bourassa S, Force A, Cloutier F, Tremblay R and Sullivan R (2014)** Investigation of male infertility using quantitative comparative proteomics. *Journal of Proteome Research*. Vol. 13: 5403-5414.

**Palermo G, Neri Q, Cozzubbo T and Rosenwaks Z (2014)** Perspectives on the assessment of human sperm chromatin integrity. *Fertility and Sterility*. Vol. 102:1508-1518.

**Pereira R, Oliveira J and Sousa M (2014)** A molecular approach to sperm immobility in humans: A review. *Medicina Reproductiva y Embriología Clínica*. Vol. 1:15-25.

**Pilatz A, Lochnit G, Karnati S, Paradowska-Dogan A, Lang T, Schultheiss D, Schuppe HC, Hossain H, Baumgart-Vogt E, Weidner W and Wagenlehner F (2014)** Acute epididymitis induces alterations in sperm protein composition. *Fertility and Sterility*. Vol. 101:1609-1618.

**Shrivastava V, Marmor H, Chernyak S, Goldstein M, Feliciano M and Vigodner M (2014)** Cigarette smoke affects posttranslational modifications and inhibits capacitation-induced changes in human sperm proteins. *Reproductive Toxicology*. Vol. 43:125-129.

**Sun G, Jiang M, Zhou T, Guo Y, Cui Y, Guo X and Sha J (2014)** Insights into the lysine acetylproteome of human sperm. *Journal of Proteomics*. Vol. 109:199-211.

## 2013

**Amaral A, Castillo J, Estanyol JM, Balleca JL, Ramalho-Santos J and Oliva R (2013a)** Human sperm tail proteome suggests new endogenous metabolic pathways. *Molecular and Cellular Proteomics*. Vol. 12:330-342.

**Amaral A, Castillo J, Ramalho-Santos J and Oliva R (2013b)** The combined human sperm proteome: cellular pathways and implications for basic and clinical science. *Human Reproduction Update*. Vol.0:1-23.

**Behrouzi B, Kenigsberg S, Alladin N, Swanson S, Zicherman J, Hong SH, Moskovtsev S and Librach C (2013)** Evaluation of potential protein biomarkers in patients with high sperm DNA damage. *Systems Biology in Reproductive Medicine*. Vol. 59:153-163.

**Esseltine J and Scott J (2013)** AKAP signaling complexes: pointing towards the next generation of therapeutic targets? *Trends in Pharmacological Sciences*. Vol. 34:648-656.

**Fiedler S, Dudiki T, Vijayaraghavan S and Carr D (2013)** Loss of R2D2 proteins ROPN1 and ROPN1L causes defects in murine sperm motility, phosphorylation, and fibrous sheath integrity. *Biology of Reproduction*. Vol. 88:1-10.

**Hamada A, Sharma R, Du Plessis S, Willard B, Yadav SP, Sabanegh E and Agarwal A (2013)** Two-dimensional differential in-gel electrophoresis-based proteomics of male gametes in relation to oxidative stress. *Fertility and Sterility*. Vol. 99:01-13.

**Kovac J, Pastuszak A and Lamb D (2013)** The use of genomics, proteomics, and metabolomics in identifying biomarkers of male infertility. *Fertility and Sterility*. Vol. 99:998-1008.

**Lehti M, Kotaja N and Sironen A (2013)** KIF3A is essential for sperm tail formation and manchette function. *Molecular and Cellular Endocrinology*. Vol. 377:44-55.

**Malcher A, Rozwadowska N, Stokowy T, Kolanowski T, Jedrzejczak P, Zietkowiak W and Kurpisz M (2013)** Potential biomarkers of non-obstructive azoospermia identified in microarray gene expression analysis. *Fertility and Sterility*. Vol. 100:1686-1694.

**Nakamura N, Dai Q, Williams J, Goulding E, Willis W, Brown P and Eddy E (2013)** Disruption of a spermatogenic cell-specific mouse enolase 4 (Eno4) gene causes sperm structural defects and male infertility. *Biology of Reproduction*. Vol. 88:1-12.

**Sharma R, Agarwal A, Mohanty G, Hamada AJ, Gopalan B, Willard B, Yadav S, du Plessis S (2013)**. Proteomic analysis of human spermatozoa proteins with oxidative stress. *Reproductive Biology and Endocrinology*. Vol. 11:48.

**Shi Z, Hou J, Guo X, Zhang H, Yang F and Dai J (2013)** Testicular phosphoproteome in perfluorododecanoic acid-exposed rats. *Toxicology Letters*. Vol. 221:91-101.

**Vigodner M, Shrivastava V, Gutstein LE, Schneider J, Nieves E, Goldstein M, Feliciano M and Callaway M (2013)** Localization and identification of sumoylated proteins in human sperm: excessive sumoylation is a marker of defective spermatozoa. *Human Reproduction*. Vol. 28:210-23.

**Xie F, Eddy E and Conti M (2013)** Analysis of signaling pathways controlling flagellar movements in mammalian spermatozoa. *Methods in Enzymology*. Vol. 524:91-104.

**Zhu Y, Wu Y, Jin K, Lu H, Liu F, Guo Y, Yan F, Shi W, Liu Y, Cao X, Hu H, Zhu H, Guo X, Sha J, Li Z and Zhou Z (2013)** Differential proteomic profiling in human spermatozoa that did or did not result in pregnancy via IVF and AID. *Clinical Proteomics Journal*. Vol. 7:850-858.

## 2012

**Baker M, Hetherington L, Weinberg A, Naumovski N, Velkov T, Pelzing M, Dolman S, Condina M and Aitken R (2012)** Analysis of phosphopeptide changes as spermatozoa acquire functional competence in the epididymis demonstrates changes in the post-translational modification of Izumo1. *Journal of Proteome Research*. Vol. 11:5252-5264.

**Delbes G, Yanagiya A, Sonenberg N and Robaire B (2012)** PABP interacting protein 2A (PAIP2A) regulates specific key proteins during spermiogenesis in the mouse. *Biology of Reproduction*. Vol. 86:1-8.

**Li Y, Liu JH, Wang T and Ye ZQ (2012)** [AKAP4 82 expression in sperm in asthenospermia]. *Zhonghua Nan Ke Xue*. Vol. 11:908-911.

**Li C and Zhou X (2012)** Gene transcripts in spermatozoa: markers of male infertility. *Clinica Chimica Acta*. Vol. 413:1035-1038.

**Lima-Souza A, Anton E, Mao S, Ho W and Krawetz S (2012)** A platform for evaluating sperm RNA biomarkers: dysplasia of the fibrous sheath-testing the concept. *Fertility and Sterility*. Vol. 97:1061-1070.

**Matzuk MM, McKeown MR, Filippakopoulos P, Li Q, Ma L, Agno JE, Lemieux ME, Picaud S, Yu RN, Qi J, Knapp S, Bradner JE (2012)** Small-molecule inhibition of BRDT for male contraception. *Cell*. Vol. 150(4):673-84.

**Naaby-Hansen S (2012)** Functional and immunological analysis of the human sperm proteome. *Danish Medical Journal*. Vol. 59:01-32.

**Parte P, Rao P, Redij S, Lobo V, D'Souza S, Gajbhiye R and Kulkarni V (2012)** Sperm phosphoproteome profiling by ultra-performance liquid chromatography followed by data independent analysis (LC-MS<sup>E</sup>) reveals altered proteomic signatures in asthenozoospermia. *Journal of Proteomics*. Vol. 75:5861-5871.

**Redgrove K, Nixon B, Baker M, Hetherington L, Baker G, Liu DY and Aitken J (2012)** The molecular chaperone HSPA2 plays a key role in regulating the expression of sperm surface receptors that mediate sperm-egg recognition. *PLOS ONE*. Vol. 7:01-16.

**Stouffs K and Lissens W (2012)** X chromosomal mutations and spermatogenic failure. *Biochimica et Biophysica Acta*. Vol. 1822:1864-1872.

**Teijeiro JM and Marini PE (2012)** The effect of oviductal deleted in malignant brain tumor 1 over porcine sperm is mediated by a signal transduction pathway that involves pro-AKAP4 phosphorylation. *Reproduction*. Vol. 143:773-785.

**Xu W, Hu H, Wang Z, Chen X, Yang F, Zhu Z, Fang P, Dai J, Wang L, Shi H, Li Z and Qiao Z (2012)** Proteomic characteristics of spermatozoa in normozoospermic patients with infertility. *Journal of Proteomics*. Vol. 75: 5426-5436.

## 2011

**Belle-Année C, Labas V, Teixeira-Gomes AP, Gatti JL, Dacheux JL and Dacheux F (2011)** Identification of luminal and secreted proteins in bull epididymis. *Journal of Proteomics*. Vol. 74:59-78.

**Colak D, Al-Dhalaan H, Nester M, AlBakheet A, Al-Younes B, Al-Hassnan Z, Al-Dosari M, Chedrawi A, Al-Owain M, AbuDheim N, Al-Alwan L, Al-Odaib A, Ozand P, Inan MS and Kaya N (2011)** Genomic and transcriptomic analyses distinguish classic rett and rett-like syndrome and reveals shared altered pathways. *Genomics*. Vol. 97:19-28.

**Jagan Mojanarao G and Atreja S.K (2011)** Identification of capacitation associated tyrosine phosphoproteins in buffalo and cattle spermatozoa. *Animal Reproduction Science*. Vol. 123:40-47.

**Luconi M, Cantini G, Baldi E and Forti G (2011)** Role of A-kinase anchoring proteins (AKAPs) in reproduction. *Frontiers in Bioscience*. Vol. 16:1315-1330.

**Teijeiro JM, Dapino DG and Marini PE (2011)** Porcine oviduct sperm binding glycoprotein and its deleterious effect on sperm: a mechanism for negative selection of sperm? *Biological Research*. Vol. 44:329-337.

**Visser L, Westerveld H, Xie F, Van Daalen S, Van Der Veen F, Lombardi P and Repping S (2011)** A comprehensive gene mutation screen in men with asthenozoospermia. *Fertility and Sterility*. Vol. 95:1020-1034.

## 2010

**Auger J, Eustache F, Maceiras P, Broussard C, Chafey P, Lesaffre C, Vaiman D, Camoin L and Auer J (2010)** Modified expression of several sperm proteins after chronic exposure to the antiandrogenic compound vinclozolin. *Toxicological Sciences*. Vol. 117:475-484.

**Baker M, Smith N, Hetherington L, Taubman Kristy, Graham M, Robinson P and Aitken J (2010)** Label-free quantitation of phosphopeptide changes during rat sperm capacitation. *Journal of Proteome Research*. Vol. 9:718-729.



**Gambera L, Falcone P, Mencaglia L, Collodel G, Serafini F, De Leo and Piomboni P (2010)** Intracytoplasmic sperm injection and pregnancy with decapitated sperm. *Fertility and Sterility*. Vol. 93:7-12.

**Gyamera-Acheampong C, Vasilescu J, Figeys D and Mbikay M (2010)** PCSK4-null sperm display enhanced protein tyrosine phosphorylation and ADAM2 proteolytic processing during in vitro capacitation. *Fertility and Sterility*. Vol. 93:1112-1123.

**Li YF, He W, Kim YH, Mandal A, Digilio L, Klotz K, Flickinger C and Herr J (2010)** CABYR isoforms expressed in late steps of spermiogenesis bind with AKAPs and ropporin in mouse sperm fibrous sheath. *Reproductive Biology and Endocrinology*. Vol. 8:101-120.

**Novak S, Smith T, Paradis F, Burwash L, Dyck M, Foxcroft G and Dixon W (2010)** Biomarkers of *in vivo* fertility in sperm and seminal plasma of fertile stallions. *Theriogenology*. Vol. 74:956-967.

**Rapuling L (2010)** Proteomic analysis of human sperm proteins in relation to sperm motility, morphology and energy metabolism. *University of Stellenbosch. PhD Thesis*. pages 37, 61, 88-89.

**Shi Z, Zhang H, Ding L, Feng Y, Wang J and Dai J (2010)** Proteomic analysis for testis of rats chronically exposed to perfluorododecanoic acid. *Toxicology Letters*. Vol. 192:179-188.

**Zheng K and Yang F Wang PJ (2010)** Regulation of male fertility by X-linked genes. *Journal of Andrology*. Vol. 31:79-85.

## 2009

**Avenarius M, Hildebrand M, Zhang Y, Meyer N, Smith L, Kahrizi K, Najmabadi H and Smith R (2009)** Human male infertility caused by mutations in the CATSPER1 channel protein. *The American Journal of Human Genetics*. Vol. 84:505-510.

**Bettoni F, Filho F, Grosso D, Galante P, Parmigiani R, Geraldo M, Henrique-Silva F, Oba-Shinjo S, Marie S, Soares F, Brentani H, Simpson A, de Souza S and Camargo A (2009)** Identification of FAM46D as a novel cancer/testis antigen using EST data and serological analysis. *Genomics*. Vol. 94:153-160.

**Frapsauce C, Pionneau C, Bouley J, de Larouziere V, Berthaut I, Ravel C, Antoine JM, Soubrier F and Mandelbaum J (2009)** Unexpected in vitro fertilization failure in patients with normal sperm: a proteomic analysis. *Gynecol Obstet Fertil*. Vol. 37:796-802

**Hu Y, Yu H, Pask A, O'Brien D, Shaw G and Renfree M (2009)** A-kinase anchoring protein 4 has a conserved role in mammalian spermatogenesis. *Reproduction*. Vol. 137:645-653.

**Hughes LM, Griffith R, Carey A, Butler T, Donne SW, Beagley KW and Aitken RJ (2009)** The spermostatic and microbicidal actions of quinones and maleimides: toward a dual-purpose contraceptive agent. *Molecular Pharmacol*. Vol. 76(1):113-24.

**Kriegel T, Heidenreich F, Kettner K, Pursche T, Hoflack B, Grunewald S, Poenicke K, Glander HJ and Paasch U (2009)** Identification of diabetes and obesity associated proteomic changes in human spermatozoa by difference gel electrophoresis. *Reproductive Biomedicine Online*. Vol. 19:660-670.

**Platt M, Salicioni A, Hunt D and Visconti P (2009)** Use of differential isotopic labeling and mass spectrometry to analyze capacitation-associated changes in the phosphorylation status of mouse sperm proteins. *Journal of Proteome Research*. Vol. 8:1431-1440.

**Stouffs K, Tournaye H, Liebaers I and Lissens W (2009)** Male infertility and the involvement of the X chromosome. *Human Reproduction Update*. Vol. 15:623-637.

## 2008

**Fiedler S, Bajpai M and Carr D (2008)** Identification and characterization of RHOA-interacting proteins in bovine spermatozoa. *Biology of Reproduction*. Vol. 78:184-192.

**Li YF, He W, Kim YH, Mandal A, Pulido S, Digilio L, Klotz K, Flickinger C and Herr J (2008)** Polymorphic cabyr expressed in the late steps of spermiogenesis and bind with AKAP3, AKAP4 and ropporin in mouse sperm fibrous sheath. *The Journal of Urology*. Vol. 174:618.

**Matzuk MM, Lamb DJ (2008)** The biology of infertility: research advances and clinical challenges. *Nat Med*. 14(11):1197-213.

**Newell AE, Fiedler SE, Ruan JM, Pan J, Wang PJ, Deininger J, Corless CL and Carr DW (2008)** Protein kinase A RII-like (R2D2) proteins exhibit differential localization and AKAP interaction. *Cell Motility Cytoskeleton*. Vol. (7)65:539-552.

**Peddinti D, Nanduri B, Kaya A, Feugang JM, Burgess SC and Memili E (2008)** Comprehensive proteomic analysis of bovine spermatozoa of varying fertility rates and identification of biomarkers associated with fertility. *BMC Systems Biology*. Vol. (2)19:1-13.

**Teijeiro JM, Cabada MO and Marini PE (2008)** Sperm binding glycoprotein (SBG) produces calcium and bicarbonate dependent alteration of acrosome morphology and protein tyrosine phosphorylation on boar sperm. *Journal of Cellular Biochemistry*. Vol. 103:1413-1423.

## 2007

**Aitken RJ and Baker AM (2007)** The role of proteomics in understanding sperm cell biology. *International Journal of Andrology*. Vol 31:295-302.

**Baker MA, Reeves G, Hetherington L, Müller J, Baur I and Aitken RJ (2007)** Identification of gene products present in Triton X-100 soluble and insoluble fractions of human spermatozoa lysates using LC-MS/MS analysis. *Proteomics Clin Appl*. Vol 1:524-532.

**Moretti E, Scapigliati G, Pascarelli NA, Baccetti B and Collodel G (2007)** Localization of AKAP4 and tubulin proteins in sperm with reduced motility. *Asian Journal of Andrology*. Vol. 9:641-649.

## 2006

**Escalier D and Albert M (2006)** New fibrous sheath anomaly in spermatozoa of men with consanguinity. *Fertility and Sterility*. Vol. 86:1-9.

**Krisfalusi M, Miki K, Magyar PL and O'Brien DA (2006)** Multiple glycolytic enzymes are tightly bound to the fibrous sheath of mouse spermatozoa. *Biol Reprod*. Vol. 75(2):270-278.

**Mariappa D, Siva AB, Shivaji S and Seshagiri PB (2006)** Tyrphostin-A47 inhibitable tyrosine phosphorylation of flagellar proteins is associated with distinct alteration of motility pattern in hamster spermatozoa. *Molecular Reproduction and Development*. Vol. 73:215-225.

**Namekawa S, Park P, Zhang LF, Shima J, McCarrey J, Griswold M and Lee J (2006)** Postmeiotic sex chromatin in the male germline of mice. *Current Biology*. Vol. 16:660-667.

**Nipper R, Jones B, Gerton G and Moss S (2006)** Protein domains govern the intracellular distribution of mouse sperm AKAP4. *Biology of Reproduction*. Vol. 75:189-196.

## 2005

**Allamaneni S, Agarwal A, Rama S, Ranganathan P and Sharma R (2005)** Comparative study on density gradients and swim-up preparation techniques utilizing neat and cryopreserved spermatozoa. *Asian Journal of Andrology*. Vol. 7:86-92.

**Baccetti B, Collodel G, Estenoz M, Manca D, Moretti E and Piomboni P (2005a)** Gene deletions in an infertile man with sperm fibrous sheath dysplasia. *Human Reproduction*. Vol. 20:2790-2794.

**Baccetti B, Collodel G, Gambera L, Moretti E, Serafini F and Piomboni P (2005b)** Fluorescence in situ hybridization and molecular studies in infertile men with dysplasia of the fibrous sheath. *Fertility and Sterility*. Vol. 84:123-129.

**Huang Z, Somanath P, Chakrabarti R, Eddy EM and Vijayaraghavan S (2005)** Changes in intracellular distribution and activity of protein phosphatase PP1g2 and its regulating proteins in spermatozoa lacking AKAP4. *Biology of Reproduction*. Vol. 72:384-392.

**Knott J, Kurokawa M, Fissore R, Schultz R and Williams C (2005)** Transgenic RNA interference reveals role for mouse sperm phospholipase C $\zeta$  in triggering Ca oscillations during fertilization. *Biology of Reproduction*. Vol. 72:992-996.

**Krawetz S (2005)** Paternal contribution: new insights and future challenges. *Nature Review Genetics*. Vol. 6: 633-643.

**Leeb T, Sieme H and Topfer-Petersen E (2005)** Genetic markers for stallion fertility-lessons from humans and mice. *Animal Reproduction Science*. Vol. 89:21-29.

**Nipper R, Chennothukuzhi V, Tutuncul L, Williams C, Gerton G and Moss S (2005)** Differential RNA expression and polyribosome loading of alternative transcripts of the AKAP4 gene in murine spermatids. *Molecular Reproduction and Development*. Vol. 70:397-405.

**Turner R, Casas-Dolz P, Schlingmann K and Hameed S (2005)** Characterization of an A-kinase anchor protein in equine spermatozoa and examination of the effect of semen cooling and cryopreservation on the binding of that protein to the regulatory subunit of protein kinase-A. *American Journal of Veterinary Research*. Vol. 66:1055-1056.

## 2004

**Baccetti B, Bruni E, Gambera L, Moretti E and Piomboni P (2004)** An ultrastructural and immunocytochemical study of a rare genetic sperm tail defect that causes infertility in humans. *Fertility and Sterility*. Vol. 82:463-468.

**Dadoune JP, Siffroi JP and Alfonsi MF (2004)** Transcription in haploid male germ cells. *International Review of Cytology*. Vol. 237:01-56.

**Ford WCL (2004)** Regulation of sperm function by reactive oxygen species. *Human Reproduction Update*. Vol. 10:387-399.

**Luconi M, Carloni V, Marra F, Ferruzzi P, Forti G and Baldi E (2004)** Increased phosphorylation of AKAP by inhibition of phosphatidylinositol 3-kinase enhances human sperm motility through tail recruitment of protein kinase A. *Journal of Cell Science*. Vol. 117:1235-1247.

**Ostermeier GC, Miller D, Huntriss JD, Diamond MP and Krawetz SA (2004)** Delivering spermatozoan RNA to the oocyte. *Reproductive biology*. Vol. 429:154.

**Pixton L, Deeks E, Flesh F, Moseley F, Bjorndhal L, Ashton P, Barnatt C and Brewis I (2004)** Sperm proteome mapping of a patient who experienced failed fertilization at IVF reveals altered expression of at least 20 proteins compared with fertile donors: case report. *Human Reproduction*. Vol. 19:1438-1447.

**Tasken K and Aandhal E (2004)** Localized effects of cAMP mediated by distinct routes of protein Kinase A. *Physiological Society*. Vol. 84:137-167.

**Wang H, Zhou Z, Xu M, Li J, Xiao J, Xu ZY, Sha J (2004)** A spermatogenesis-related gene expression profile in human spermatozoa and its potential clinical applications. *J Mol Med (Berl)*. Vol. 82(5):317-24.

**Wong W and Scott J (2004)** AKAP signaling complexes: focal points in space and time. *Molecular Cell Biology*. Vol. 5:959-970.

## 2003

**Brown PR, Miki K, Harper D and Eddy EM (2003)** A-kinase anchoring protein 4 binding proteins in the fibrous sheath. *Biology of Reproduction*. Vol. 68:2241-2248.

**Eddy EM, Toshimori K and O'Brien DA (2003)** Fibrous sheath of mammalian spermatozoa. *Microscopy Research and Technique*. Vol. 61:103-115.

**Ficarro S, Chertihin O, Westbrook A, White F, Jayes F, Kalab P, Marto J, Shabanowitz J, Herr J, Hunt D and Visconti P (2003)** Phosphoproteome analysis of capacitated human sperm (evidence of tyrosine phosphorylation of a kinase-anchoring protein 3 and valosin containing protein p97 during capacitation). *The Journal of Biological Chemistry*. Vol. 278:11579-11589.

**Marin-Briggiler C, Gonzalez-Echeverria F, Buffone M, Calamera J, Tezon J and Vazquez-Levin M (2003)** Calcium requirements for human sperm function in vitro. *Fertility and Sterility*. Vol. 79:1396-1403.

**Miranda-Vizuete A, Tsang K, Yu Y, Jiménez A, Pelto-Huikko M, Flickinger CJ, Sutovsky P and Oko R (2003)** Cloning and developmental analysis of murid spermatid-specific thioredoxin-2 (SPTRX-2), a novel sperm fibrous sheath protein and autoantigen. *J Biol Chem*. Vol. 278(45):44874-85.

**Thompson W, Ramalho-Santos J and Sutovsky P (2003)** Ubiquitination of prohibitin in mammalian sperm mitochondria: possible roles in the regulation of mitochondrial inheritance and sperm quality control. *Biology of Reproduction*. Vol. 69:254-260.

## 2002

**Jha KN and Shivaji S (2002)** Identification of the major tyrosine phosphorylated protein of capacitated hamster spermatozoa as a homologue of mammalian sperm A-kinase anchoring protein. *Molecular Reproduction and Development*. Vol. 61:258-270.

**Miki K, Goulding EH, Fulcher KD, Eddy E, Willis WD and Brown PR (2002)** Targeted disruption of the AKAP4 gene causes defects in sperm flagellum and motility. *Developmental Biology*. Vol. 248:331-342.

**Morales CR, Lefrancois S, Chennathukuzhi V, El-Alfy M, Wu X, Yang J, Gerton GL, and Hecht NB (2002)** A TB-RBP and Ter ATPase complex accompanies specific mRNAs from nuclei through the nuclear pores and into intercellular bridges in mouse male germ cells. *Dev Biol.* 246(2):480-494.

**Naaby-Hansen S, Mandal A, Wolkowicz M, Sen B, Westbrook A, Shetty J, Coonrod S, Klotz K, Kim Y-H, Bush L, Flickinger C and Herr J (2002)** CABYR, a novel calcium-binding tyrosine phosphorylation-regulated fibrous sheath protein involved in capacitation. *Developmental Biology.* Vol. 242:236-254.

**Ostermeier GC, Dix DJ, Miller D, Khatri P and Krawetz SA (2002)** Spermatozoal RNA profiles of normal fertile men. *The Lancet.* Vol. 360:772-778.

**Sapiro R, Kostetskii I, Olds-Clarke P, Gerton G, Radice G and Strauss J (2002)** Male infertility, impaired sperm motility and hydrocephalus in mice deficient in sperm-associated antigen 6. *Molecular and Cellular Biology.* Vol. 22:6298-6305.

## 2001

**Gaillard AR, Diener DR, Rosenbaum JL and Sale WS (2001)** Flagellar radial spoke protein 3 is an A-kinase anchoring protein (AKAP). *The Journal of Cell Biology.* Vol. 153(2):443-448.

**Moss S and Gerton G (2001)** A-kinase anchor proteins in endocrine systems and reproduction. *TRENDS in Endocrinology & Metabolism.* Vol. 12:434-441.

**Rawe VY, Galaverna GD, Acosta AA, Olmedo SG and Chemes HE (2001)** Incidence of tail structure distortions associated with dysplasia of the fibrous sheath in human spermatozoa. *Human Reproduction.* Vol. 16: 879-886.

**Turner R, Foster J, Gerton G, Moss S and Patrizio P (2001a)** Molecular evaluation of two major human sperm fibrous sheath proteins, pro- hAKAP82 and hAKAP82, in stump tail sperm. *Fertility and Sterility.* Vol. 76:267-274.

**Turner R, Musse M, Mandal A, Klotz K, Jayes F, Herr J, Gerton G, Moss S and Chemes H (2001b)** Molecular genetic analysis of two human sperm fibrous sheath proteins, AKAP4 and AKAP3, in men with dysplasia of the fibrous sheath. *Journal of Andrology.* Vol. 22:302-316.

## 2000

**Edwards AS and Scott FD (2000)** A-kinase anchoring proteins: protein kinase A and beyond. *Current Opinion in Cell Biology.* Vol. 12:217-221.

**Fujita A, Nakamura K, Kato T, Watanabe N, Ishizaki T, Kimura K, Mizoguchi A and Narumiya S (2000)** Ropporin, a sperm-specific binding protein of rhophilin, that is localized in the fibrous sheath of sperm flagella. *J Cell Sci.* Vol. 113 (Pt 1):103-112.

## 1999

**Lefevre A, Duquenne C, Rousseau-Merck M, Rogier E and Finaz C (1999)** Cloning and characterization of SOB1, a new testis specific cDNA encoding a human sperm protein probably involved in oocyte recognition. *Biochemical and Biophysical Research Communications.* Vol. 259:60-66.

**Mandal A, Naaby-Hansen S, Wolkowicz M, Klotz K, Shetty J, Retief J, Coonrod S, Kinter M, Sherman N, Cesar F, Flickinger C and Herr J (1999)** FSP95, a testis-specific 95-kilodalton fibrous sheath antigen that undergoes tyrosine phosphorylation in capacitated human spermatozoa. *Biology of Reproduction*. Vol. 61:1184-1197.

**Miki K and Eddy EM (1999)** Single amino acids determine specificity of binding of protein kinase A regulatory subunits by protein kinase A anchoring proteins. *The Journal of Biological Chemistry*. Vol. 274:29057-29062.

**Moss S, Turner R, Burkert K, Butt H and Gerton G (1999)** Conservation and function of a bovine sperm A-kinase anchor protein homologous to mouse AKAP82. *Biology of Reproduction*. Vol. 61:335-342.

**Peterson C, Fuzesi L and Hoyer-Fender (1999)** Outer dense fiber proteins from human sperm tail: molecular cloning and expression analyses of two cDNA transcripts encoding proteins of 70 kDa. *Molecular Human Reproduction*. Vol. 5:627-635.

**Turner R, Eriksson R, Gerton G and Moss S (1999)** Relationship between sperm motility and the processing and tyrosine phosphorylation of two human sperm fibrous sheath proteins, prohAKAP82 and hAKAP82. *Molecular Human Reproduction*. Vol. 5:816-825.

## 1998

**Miki K and Eddy EM (1998)** Identification of tethering domains for protein kinase A type I  $\alpha$  regulatory subunits on sperm fibrous sheath protein FSC1. *The Journal of Biological Chemistry*. Vol. 273:34384-34390.

**Mohapatra B, Verma S, Shankar S and Suri A (1998)** Molecular cloning of human testis mRNA specifically expressed in haploid germ cells, having structural homology with the a-kinase anchoring proteins. *Biochemical and Biophysical Research Communications*. Vol. 244:540-545.

**Tash J and Bracho G (1998)** Identification of phosphoproteins coupled to initiation of motility in live epididymal mouse sperm. *Biochemical and Biophysical Research Communication*. Vol. 251:557-563.

**Turner R, Johnson L, Haig-Ladewig L, Gerton G and Moss S (1998)** An X-linked gene encodes a major human sperm fibrous sheath protein, hAKAP82. *The Journal of Biological Chemistry*. Vol. 273:32135-32141.

## 1997

**Johnson L, Foster J, Haig-Ladewig L, VanScoy H, Rubin C, Moss S and Gerton G (1997)** Assembly of AKAP82, a protein kinase A anchor protein, into the fibrous sheath of mouse sperm. *Developmental Biology*. Vol. 192:340-350.

**Moss SB, VanScoy H and Gerton GL (1997)**. Mapping of a haploid transcribed and translated sperm-specific gene to the mouse X chromosome. *Mamm Genome*. Vol. 8:37-38.

**Vijayaraghavan S, Goueli SA, Davery MP and Carr DW (1997)** Protein kinase A-anchoring inhibitor peptides arrest mammalian sperm motility. *The Journal of Biological Chemistry*. Vol. 272:4747-4752.

**Visconti P, Johnson L, Oyaski M, Fornés M, Gerton G, Moss S and Kopf G (1997)** Regulation, localization, and anchoring of protein kinase-A subunits during mouse sperm capacitation. *Developmental Biology*. Vol. 192:351-363.

## 1996

**Carrera A, Moos J, Ning XP, Gerton G, Tesarik J, Kopf G and Moss S (1996)** Regulation of protein tyrosine phosphorylation in human sperm by a calcium/calmodulin-dependent mechanism: identification of A kinase anchor proteins as major substrates for tyrosine phosphorylation. *Developmental Biology*. Vol. 180: 284-296.

**1995**

**Fulcher K, Mori C, Welch J, O'Brien D, Klapper D and Eddy EM (1995)** Characterization of Fscl cDNA for a mouse sperm fibrous sheath component. *Biology of Reproduction*. Vol. 52:41-49.

**1994**

**Carrera A, Gerton G and Moss S (1994)** The major fibrous sheath polypeptide of mouse sperm: structural and functional similarities to the A-kinase anchoring proteins. *Developmental Biology*. Vol. 165:272-284.

**1991**

**Eddy EM, O'Brien DA, Fenderson BA and Welch JE (1991)** Intermediate filament-like proteins in the fibrous sheath of the mouse sperm flagellum. *Annals New York Academy of Sciences*. Vol. 637:224-239.

**1989**

**Brito M, Figueroa J, Maldonado E, Vera J and Burzio L (1989)** The major component of the rat sperm fibrous sheath is a phosphoprotein. *Gamete Research*. Vol. 22:205-217.