

Partial List of Publications Utilizing Zeiss LSM510 META and LSM880 Confocal Microscopes

2000–2017

- Abhyankar, M. M. *et al.* Characterization of an *Entamoeba histolytica* high-mobility-group box protein induced during intestinal infection. *Eukaryot Cell* **7**, 1565–1572 (2008).
- Ananieva, E.A., Gillaspay, G.E., Ely, A., Burnette, R.N., & Erickson, F.L. Interaction of the WD40 domain of a myoinositol polyphosphate 5-phosphatase with SnRK1 links inositol, sugar, and stress signaling. *Plant Physiol* **148**, 1868-1882 (2008).
- Anchamparamuthy, V., Pearson, R. & Gwazdauskas, F. Expression pattern of apoptotic genes in vitrified-thawed bovine oocytes. *Reprod Domest Anim* **45**, e83–e90 (2010).
- Antoine, E.E., Vlachos, P.P., & Rylander, M.N. Tunable collagen I hydrogels for engineered physiological tissue micro-environments. *PLoS ONE* **10**, 1371 (2015).
- Arena, C. B., Szot, C. S., Garcia, P. A., Rylander, M. N. & Davalos, R. V. A three-dimensional *in vitro* tumor platform for modeling therapeutic irreversible electroporation. *Biophys J* **103**, 2033–2042 (2012).
- Babahosseini, H. *et al.* The impact of sphingosine kinase inhibitor-loaded nanoparticles on bioelectric and biomechanical properties of cancer cells. *Lab on a Chip* **16**, 188-198 (2016)
- Baker, B. *et al.* Alteration of lysosomal fusion and low-grade inflammation mediated by super-low dose endotoxin. *J Biol Chem* **290**, 6670–6678 (2015).
- Beach, N. M., Córdoba, L., Kenney, S. P. & Meng, X.-J. Productive infection of human hepatocellular carcinoma cells by porcine circovirus type 1. *Vaccine* **29**, 7303–7306 (2011).
- Besnard, J., *et al.* UMAMIT14 is an amino acid exporter involved in phloem unloading in Arabidopsis roots. *J Exp Bot* **67**, 6385–6397 (2016).
- Bridi, L. C. *et al.* Chromosomal localization of actin genes in the malaria mosquito *Anopheles darlingi*. *Med Vet Entomol* **27**, 118–121 (2013).
- Bryson, D. I., Zhang, W., Ray, W.K. & Santos, W. L. Screening of a branched peptide library with HIV-1 TAR RNA. *Mol Biosyst* **5**, 1070–1073 (2009).
- Bryson, D. I., Zhang, W., McLendon, P. M., Reineke, T. M. & Santos, W. L. Toward targeting RNA structure: branched peptides as cell-permeable ligands to TAR RNA. *ACS Chem Biol* **7**, 210–217 (2012).
- Buss, S. N. *et al.* Members of the *Entamoeba histolytica* transmembrane kinase family play non-redundant roles in growth and phagocytosis. *Int J Parasitol* **40**, 833–843 (2010).
- Cassino, T.R. *et al.* Design and application of an oscillatory compression device for cell constructs. *Biotechnol Bioeng* **98**, 211–220 (2007).
- Collins, D.A. *et al.* Plant nuclei can contain extensive grooves and invaginations. *Plant Cell* **12**, 2425–2439 (2000).
- Detzel, C. J., Kim, Y. & Rajagopalan, P. Engineered three-dimensional liver mimics recapitulate critical rat-specific bile acid pathways. *Tissue Eng Part A* **17**, 677–689 (2011).
- Dhali, A. *et al.* Effect of droplet vitrification on development competence, actin cytoskeletal integrity and gene expression in *in vitro* cultured mouse embryos. *Theriogenology* **71**, 1408–1416 (2009).
- Dhali, A. *et al.* Development and quality of bovine embryos produced *in vitro* using growth factor supplemented serum-free system. *OJAS* **1**, 97-105 (2011).
- Diao, Y. *et al.* Next-generation sequencing reveals recent horizontal transfer of a DNA transposon between divergent mosquitoes. *PLoS ONE* **6**, e16743 (2011).

Donahue, J. L. *et al.* The *Arabidopsis thaliana* myo-inositol 1-phosphate synthase1 gene is required for myo-inositol synthesis and suppression of cell death. *Plant Cell* **22**, 888–903 (2010).

Dou, D. *et al.* RXLR-mediated entry of *Phytophthora sojae* effector Avr1b into soybean cells does not require pathogen-encoded machinery. *Plant Cell* **20**, 1930–1947 (2008).

Eberle, A. P. R., Baird, D. G., Wapperom, P. & Vélez-García, G. M. Obtaining reliable transient rheological data on concentrated short fiber suspensions using a rotational rheometer. *J Rheol* **53**, 1049–1068 (2009).

Eberle, A. P. R., Baird, D. G., Wapperom, P. & Vélez-García, G. M. Using transient shear rheology to determine material parameters in fiber suspension theory. *J Rheol* **53**, 685–705 (2009).

Eberle, A. P. R., Vélez-García, G. M., Baird, D. G. & Wapperom, P. Fiber orientation kinetics of a concentrated short glass fiber suspension in startup of simple shear flow. *J Non-Newton Fluid* **165**, 110–119 (2010).

Eberle, A. P. R., Velez, G., Baird, D., Wapperom, P. & Ortman, K. The dynamic behavior of a concentrated non-Brownian glass fiber suspension in simple shear flow. *AIP Conference Proceedings* **1027**, 722–724 (2008).

English, E.M., *et al.* Chronic activation of AMP-activated protein kinase increases monocarboxylate transporter 2 and 4 expression in skeletal muscle. *J Anim Sci* **xx**: xx–xx (2017)

Farrar, G., Barone, J. & Morgan, A. Ovalbumin-based porous scaffolds for bone tissue regeneration. *J Tissue Eng* **1**, 209860 (2010).

Frazzon, A.P. *et al.* Functional analysis of *Arabidopsis* genes involved in mitochondrial iron–sulfur cluster assembly. *Plant Mol Biol* **64**, 225–240 (2007).

George, P., Sharakhova, M. V. & Sharakhov, I. V. High-resolution cytogenetic map for the African malaria vector *Anopheles gambiae*. *Insect Mol Biol* **19**, 675–682 (2010).

George, P., Sharakhova, M. V. & Sharakhov, I. V. High-throughput physical mapping of chromosomes using automated *in situ* hybridization. *J Vis Exp* **64**, e4007 (2012).

Gervasio, M., & Lu, K. PMMA-ZnO hybrid arrays using in-situ polymerization and imprint lithography. *J Phys Chem C* **121**, 11862–11871 (2017).

Gervasio, M., & Lu, K. Suspension-based imprint lithography of ZnO-PMMA hybrids. *Roy Soc Chem* **xx**, xx–xx (2017).

Gervasio, M., Lu, K., & Davis, R. Experimental and modeling study of solvent diffusion into PDMS for nanoparticle-polymer cosuspension imprint lithography. *Langmuir* **31**, 9809–9816 (2015).

Ghosh, S., Kumar, S.R.P., Puri, I.K., & Elankumaran, S. Magnetic assembly of 3D cell clusters: visualizing the formation of an engineered tissue. *Cell Proliferat* **49**, 134–144 (2016).

Giraldo, A. *et al.* Gene expression of Dnmt1 isoforms in porcine oocytes, embryos and somatic cells. *Cell Reprogram* **15**, 309–231 (2013).

Grandinetti, G. & Reineke, T. M. Exploring the mechanism of plasmid DNA nuclear internalization with polymer-based vehicles. *Mol Pharm* **9**, 2256–2267 (2012).

Grandinetti, G., Ingle, N. P. & Reineke, T. M. Interaction of poly(ethylenimine)–DNA polyplexes with mitochondria: implications for a mechanism of cytotoxicity. *Mol Pharm* **8**, 1709–1719 (2011).

Grandinetti, G., Smith, A. E. & Reineke, T. M. Membrane and nuclear permeabilization by polymeric pDNA vehicles: efficient method for gene delivery or mechanism of cytotoxicity? *Mol Pharm* **9**, 523–538 (2012).

Greer, K. *et al.* Modulation of gap junction-associated Cx43 in neural stem/progenitor cells following traumatic brain injury. *Brain Res Bull* **134**: 38–46 (2017).

Grushko, O. G., Sharakhova, M. V., Stegnii, V. N. & Sharakhov, I. V. Molecular organization of heterochromatin in malaria mosquitoes of the *Anopheles maculipennis* subgroup. *Gene* **448**, 192–197 (2009).

Gu, B. *et al.* Rust secreted protein Ps87 is conserved in diverse fungal pathogens and contains a RXLR-like motif sufficient for translocation into plant cells. *PLoS ONE* **6**, e27217 (2011).

Hall, A. B. *et al.* Insights into the preservation of the homomorphic sex-determining chromosome of *Aedes aegypti* from the discovery of a male-biased gene tightly linked to the M-locus. *Genome Biol Evol* **6**, 179–191 (2014).

Hall, A. B. *et al.* Six novel Y chromosome genes in *Anopheles* mosquitoes discovered by independently sequencing males and females. *BMC Genomics* **14**, 273 (2013).

Hartig, S. M. *et al.* The F-BAR protein CIP4 promotes GLUT4 endocytosis through bidirectional interactions with N-WASP and Dynamin-2. *J Cell Sci* **122**, 2283–2291 (2009).

Hildreth, S. B. *et al.* Tobacco nicotine uptake permease (NUP1) affects alkaloid metabolism. *PNAS* **108**, 18179–18184 (2011).

Hirst, S. M. *et al.* Anti-inflammatory properties of cerium oxide nanoparticles. *Small* **5**, 2848–2856 (2009).

Hofmann, M. C. *et al.* A fiber-optic-based imaging system for nondestructive assessment of cell-seeded tissue-engineered scaffolds. *Tissue Eng C: Methods* **18**, 677–687 (2012).

Huang, M. *et al.* The major volatile organic compound emitted from *Arabidopsis thaliana* flowers, the sesquiterpene (E)- β -caryophyllene, is a defense against a bacterial pathogen. *New Phytol* **193**, 997–1008 (2012).

Huang, M. *et al.* Variation of herbivore-induced volatile terpenes among *Arabidopsis* ecotypes depends on allelic differences and subcellular targeting of two terpene synthases, TPS02 and TPS03. *Plant Physiol* **153**, 1293–1310 (2010).

Huang, W., Zhang, J., Dorn, H. C. & Zhang, C. Assembly of bio-nanoparticles for double controlled drug release. *PLoS One* **8** (2013).

Hu, Y., Hoerle, R., Erlich, M. & Zhang, C. Engineering the lipid layer of lipid-PLGA hybrid nanoparticles for enhanced *in vitro* cellular uptake and improved stability. *Acta Biomater* **28**, 149–159 (2015).

Hu, Y. *et al.* The next-generation nicotine vaccine: a novel and potent hybrid nanoparticle based nicotine vaccine. *Biomaterials* **106**: 228–239 (2016).

Hu, Y., Zhao, Z., Erlich, M., Fuhrman, K. & Zhang, C. *In vitro* controlled release of antigen in dendritic cells using pH-sensitive liposome-polymeric hybrid nanoparticles. *Polymer* **80**, 191–179 (2015).

Ingle, N. P., Xue, L. & Reineke, T. M. Spatiotemporal cellular imaging of polymer–pDNA nanocomplexes affords *in situ* morphology and trafficking trends. *Mol Pharm* **10**, 4120–4135 (2013).

Ivey, J. *et al.* Targeted cellular ablation based on the morphology of malignant cells. *Scientific Reports* **5**, 17157 (2015).

Ivey, J. *et al.* Enhancing irreversible electroporation by manipulating cellular biophysics with a molecular adjuvant. *Biophys J* **113**, 472–480 (2017).

Jack, G. D. *et al.* Activated stress response pathways within multicellular aggregates utilize an autocrine component. *Cell Signal* **19**, 772–781 (2007).

Jack, G. D. *et al.* Long term metabolic arrest and recovery of HEK293 spheroids involves NF- κ B signaling and sustained JNK activation. *J Cell Physiol* **206**, 526–536 (2006).

Jain, G., Ford, A.J., & Rajagopalan, P. Opposing rigidity-protein gradients reverse fibroblast durotaxis. *ACS Biomaterials Sci Eng* **1**, 621–631 (2015).

Jain-Gupta, N. *et al.* Efficacies of gentamicin-loaded magnetite block ionomer complexes against chronic *Brucella melitensis* infection. *J Nanopart Res* **15**, 2024 (2013).

Kale, S. D. *et al.* External lipid PI3P mediates entry of eukaryotic pathogen effectors into plant and animal host cells. *Cell* **142**, 284–295 (2010).

Kamali, M. *et al.* An integrated chromosome map of microsatellite markers and inversion breakpoints for an Asian malaria mosquito, *Anopheles stephensi*. *J Hered* **102**, 719–726 (2011).

Kamali, M., Xia, A., Tu, Z. & Sharakhov, I. V. A new chromosomal phylogeny supports the repeated origin of vectorial capacity in malaria mosquitoes of the *Anopheles gambiae* complex. *PLoS Pathog* **8**, (2012).

Kargar, M. *et al.* Colloidal crystals delay formation of early stage bacterial biofilms. *ACS Biomaterials Sci Eng* **2**, 10369–1048 (2016).

Kasap, M. *et al.* Dynamic nucleation of Golgi apparatus assembly from the endoplasmic reticulum in interphase HeLa cells. *Traffic* **5**, 595–605 (2004).

Kendall, T. A. & Hochella Jr., M. F. Measurement and interpretation of molecular-level forces of interaction between the siderophore azotobactin and mineral surfaces. *Geochim Cosmochim AC* **67**, 3537-3546 (2003)

Kenney, S.P. & Meng, X-J. An SH3 binding motif within the nucleocapsid protein of porcine reproductive and respiratory syndrome virus interacts with the host cellular signaling proteins STAM1, TXK, Fyn, Hck, and cortactin. *Virus Res* **204**, 31–39 (2015).

Kenney, S.P. & Meng, X-J. Identification and fine mapping of nuclear and nucleolar localization signals within the human ribosomal protein S17. *PLoS ONE* **10**(4): e0124396. (2015)

Kenney, S. P. *et al.* The PSAP motif within the ORF3 protein of an avian strain of the hepatitis E virus is not critical for viral infectivity *in vivo* but plays a role in virus release. *J Virol* **86**, 5637–5646 (2012).

Kim, K-H. *et al.* TmpL, a transmembrane protein required for intracellular redox homeostasis and virulence in a plant and an animal fungal pathogen. *PLoS Pathog* **5**, e1000653 (2009).

Kim, K-H., Cho, Y., La Rota, M., Cramer, R. A. & Lawrence, C. B. Functional analysis of the *Alternaria brassicicola* non-ribosomal peptide synthetase gene *AbNPS2* reveals a role in conidial cell wall construction. *Mol Plant Pathol* **8**, 23–39 (2007).

Kim, Y. & Rajagopalan, P. 3D hepatic cultures simultaneously maintain primary hepatocyte and liver sinusoidal endothelial cell phenotypes. *PLoS One* **5**, (2010).

Kim, Y., Larkin, A. L., Davis, R. M. & Rajagopalan, P. The design of *in vitro* liver sinusoid mimics using chitosan–hyaluronic acid polyelectrolyte multilayers. *Tissue Eng* **16**, 2731–2741 (2010).

Larkin, A. L., Rodrigues, R. R., Murali, T. M. & Rajagopalan, P. Designing a multicellular organotypic 3D liver model with a detachable, nanoscale polymeric Space of Disse. *Tissue Eng Methods* **19**, 875–884 (2013).

Learman, D. R. *et al.* Involvement of *Shewanella oneidensis* MR-1 LuxS in biofilm development and sulfur metabolism. *Appl Environ Microbiol* **75**, 1301–1307 (2009).

LeBlanc, M. L., Merritt, T. R., McMillan, J., Westwood, J. H. & Khodaparast, G. A. Optoperforation of single, intact *Arabidopsis* cells for uptake of extracellular dye-conjugated dextran. *Opt Express* **21**, 14662 (2013).

Lei, S. *et al.* *Enterobacter cloacae* inhibits human norovirus infectivity in gnotobiotic pigs. *Sci Rep* **6**, 25017 (2016).

Lei, S. *et al.* Increased and prolonged human norovirus infection in TAG2/IL2RG deficient gnotobiotic pigs with severe combined immunodeficiency. *Sci Rep* **6**, 25222 (2016).

Li, X. *et al.* Nitrogen removal by granular nitrification–Anammox in an upflow membrane-aerated biofilm reactor. *Water Res* **94**, 23-31 (2016).

Li, X. *et al.* Long-term performance and microbial community characterization of an osmotic anammox system for removing reverse-fluxed ammonia. *Bioresource Technol* **211**, 628–635 (2016).

Liang, C., DeCourcy, K. & Prater, M. R. High-saturated-fat diet induces gestational diabetes and placental vasculopathy in C57BL/6 mice. *Metabolis* **59**, 943–950 (2010).

Lim, C-S., Potts, M. & Helm, R. F. Nicotinamide extends the replicative life span of primary human cells. *Mech Ageing Dev* **127**, 511–514 (2006).

Liu, P., Peng H-J., & Zhu, J. Juvenile hormone-activated phospholipase C pathway enhances transcriptional activation by the methoprene-tolerant protein. *PNAS* **112**, E1871–E1879 (2015).

Lorca, T.A. *et al.* Penetration of shock-inoculated bacteria as a result of hydrodynamic shock wave treatment of beef steaks. *J Food Protect* **4**, 616620 (2002).

Lott, W., Anchamparthy, V., McGilliard, M., Mullarky, I. & Gwazdauskas, F. Influence of cysteine in conjunction with growth factors on the development of *in vitro*-produced bovine embryos. *Reprod Domest Anim* **46**, 585–594 (2011).

Lower, S.K., Hochella, M.F., & Beveridge, T.J. Bacterial recognition of mineral surfaces: nanoscale interactions between *Shewanella* and α -FeOOH. *Science* **292**, 1360–1363 (2001).

Lower, S.K., Tadanier, C.J., & Hochella, M.F. Measuring interfacial and adhesion forces between bacterial and mineral forces with biological force microscopy. *Geochim Cosmochim AC* **64**, 3133–3139 (2000).

Maitra, U. *et al.* Molecular mechanisms responsible for the selective and low-grade induction of proinflammatory mediators in murine macrophages by lipopolysaccharide. *J Immunol* **189**, 1014–1023 (2012).

Mancini, E. *et al.* Molecular characterization and evolution of a gene family encoding male-specific reproductive proteins in the African malaria vector *Anopheles gambiae*. *BMC Evol Biol* **11**, 292 (2011).

Mancini, E. *et al.* Molecular evolution of a gene cluster of serine proteases expressed in the *Anopheles gambiae* female reproductive tract. *BMC Evol Biol* **11**, 72 (2011).

Massicotte, C., Knight, K., Schyf, C. J. V. D., Jortner, B. S. & Ehrich, M. Effects of organophosphorus compounds on ATP production and mitochondrial integrity in cultured cells. *Neurotox Res* **7**, 203–217 (2005).

Maza, W.A., Padilla, R., & Morris, A.J. Concentration dependent dimensionality of resonance energy transfer in a postsynthetically doped morphologically homologous analogue of UiO-67 MOF with a ruthenium(II) polypyridyl complex. *J Am Chem Soc* **137**, 8161–8168 (2015).

McLendon, P. M., Fichter, K. M. & Reineke, T. M. Poly(glycoamidoamine) vehicles promote pDNA uptake through multiple routes and efficient gene expression via caveolae-mediated endocytosis. *Mol Pharm* **7**, 738–750 (2010).

Mullins, D.E., Mullins, K.J., & Tignor, K.R. The structural basis for water exchange between the female cockroach (*Blattella germanica*) and her ootheca. *J Exp Biol* **205**, 2987–2996 (2002).

Mweetwa, A. M., Welbaum, G. E. & Tay, D. Effects of development, temperature, and calcium hypochlorite treatment on in vitro germinability of *Phalaenopsis* seeds. *Sci Hortic* **117**, 257–262 (2008).

Nikkhah, M. *et al.* MCF10A and MDA-MB-231 human breast basal epithelial cell co-culture in silicon microarrays. *Biomaterials* **32**, 7625–7632 (2011).

Nikkhah, M., Strobl, J. S. & Agah, M. Geometry-dependent behavior of fibroblast cells in three-dimensional silicon microstructures. In *29th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2007. EMBS 2007* 6077–6080 (2007).

Nikkhah, M., Strobl, J. S., De Vita, R. & Agah, M. The cytoskeletal organization of breast carcinoma and fibroblast cells inside three dimensional (3-D) isotropic silicon microstructures. *Biomaterials* **31**, 4552–4561 (2010).

Nikkhah, M., Strobl, J. S., Peddi, B. & Agah, M. Cytoskeletal role in differential adhesion patterns of normal fibroblasts and breast cancer cells inside silicon microenvironments. *Biomed Microdevices* **11**, 585–595 (2009).

Nikkhah, M., Strobl, B. & Agah, M. Attachment and response of human fibroblast and breast cancer cells to three dimensional silicon microstructures of different geometries. *Biomed Microdevices* **11**, 429–441 (2009).

Nourbakhsh, A., Collakova, E., & Gillaspay, G.E. Characterization of the Inositol Monophosphatase Gene Family in Arabidopsis. *Front. Plant Sci.* **5**: 725 (2014)

O'Brien, D. K. & Melville, S. B. Multiple effects on *Clostridium perfringens* binding, uptake and trafficking to lysosomes by inhibitors of macrophage phagocytosis receptors. *Microbiology* **149**, 1377–1386 (2003).

Peery, A. *et al.* Improving the population genetics toolbox for the study of the African malaria vector *Anopheles nili*: microsatellite mapping to chromosomes. *Parasite Vector* **4**, 202 (2011).

Piñeyro, P. *et al.* Evaluation of the use of non-pathogenic porcine circovirus type 1 as a vaccine delivery virus vector to express antigenic epitopes of porcine reproductive and respiratory syndrome virus. *Virus Res* **213**, 100–108 (2015)

Pratelli, R. *et al.* The ubiquitin E3 ligase LOSS OF GDU2 is required for GLUTAMINE DUMPER1-induced amino acid secretion in Arabidopsis. *Plant Physiol.* **158**, 1628–1642 (2012).

Price, M. & Okumoto, S. Inter-subunit interactions between glutamate-Like receptors in *Arabidopsis*. *Plant Signal & Behav* **8**, e27034 (2013).

Pudupakam, R. S. *et al.* Mutational analysis of the hypervariable region of hepatitis E virus reveals its involvement in the efficiency of viral RNA replication. *J. Virol.* **85**, 10031–10040 (2011).

Puthiyaveetil, A. G. & Caudell, D.L. Non homologous end joining-mediated DNA break repair is impaired in B-lymphocytes of aging mice. *Mol Immunol* **53**, 79–87 (2013).

Puthiyaveetil, A. G., Okyere, B., Reilly, C. M. & Caudell, D. Diverging *in vitro* antibody isotype switching preference in B-lymphocytes from C57BL/6 and FVB mice. *In Vivo* **27**, 29–39 (2013).

Rajasekaran, P. *et al.* *Brucella abortus* strain RB51 leucine auxotroph as an environmentally safe vaccine for plasmid maintenance and antigen overexpression. *Appl Environ Microbiol* **74**, 7051–7055 (2008).

Ranjan, A. *et al.* *In vitro* trafficking and efficacy of core-shell nanostructures for treating intracellular Salmonella infections. *Antimicrob Agents Ch* **53**, 3985–3988 (2009).

Rennekar, S., Zink-Sharp, A., & Glasser, W.G. Fiber modification by steam-explosion: microscopic analysis of co-refined wood and polypropylene. *OAWA J* **28**, 13–27 (2007).

Rhee, S. W., Starr, T., Forsten-Williams, K. & Storrie, B. The steady-state distribution of glycosyltransferases between the Golgi apparatus and the endoplasmic reticulum is approximately 90:10. *Traffic* **6**, 978–990 (2005).

Sandal, I., Hong, W., Swords, W. E. & Inzana, T. J. Characterization and comparison of biofilm development by pathogenic and commensal isolates of *Histophilus somni*. *J Bacteriol* **189**, 8179–8185 (2007).

Saslowsky, D. E., Warek, U. & Winkel, B. S. J. Nuclear localization of flavonoid enzymes in Arabidopsis. *J. Biol Chem* **280**, 23735–23740 (2005).

Scali, C. *et al.* Post-integration behavior of a Minos transposon in the malaria mosquito *Anopheles stephensi*. *Mol Genet Genomics* **278**, 575–584 (2007)

Seleem, M. N., Ali, M., Boyle, S. M. & Sriranganathan, N. Reporter genes for real-time in vivo monitoring of *Ochrobactrum anthropi* infection. *FEMS Microbiol Letters* **286**, 124–129 (2008).

Sharakhova, M. V. *et al.* A physical map for an Asian malaria mosquito, *Anopheles stephensi*. *Am J Trop Med Hyg* **83**, 1023–1027 (2010).

Sharakhova, M. V. *et al.* Cytogenetic analysis of *Anopheles ovengensis* revealed high structural divergence of chromosomes in the *Anopheles nili* group. *Infect Genet Evol* **16**, 341–348 (2013).

Sharakhova, M. V. *et al.* Cytogenetic map for *Anopheles nili*: application for population genetics and comparative physical mapping. *Infect Genet Evol* **11**, 746–754 (2011).

Sharakhova, M. V. *et al.* Genome mapping and characterization of the *Anopheles gambiae* heterochromatin. *BMC Genomics* **11**, 459 (2010).

Sharakhova, M. V., Xia, A., Mcalister, S. I. & Sharakhov, I. V. A standard cytogenetic photomap for the mosquito *Anopheles stephensi* (Diptera: Culicidae): Application for Physical Mapping. *J Med Entomol* **43**, 861–866 (2006).

Sharakhova, M. V. *et al.* Imaginal Discs - A New Source of Chromosomes for Genome Mapping of the Yellow Fever Mosquito *Aedes aegypti*. *PLoS Negl Trop Dis* **5**, (2011).

Shi, H. *et al.* Mice lacking MKP-1 and MKP-5 reveal hierarchical regulation of regenerative myogenesis. *J Stem Cell Regen Bio* **1**, 1–7 (2016).

Shobana, R., Samal, S. K. & Elankumaran, S. Prostate-specific antigen-retargeted recombinant Newcastle disease virus for prostate cancer virotherapy. *J Virol* **87**, 3792–3800 (2013).

Smith, A. E., Sizovs, A., Grandinetti, G., Xue, L. & Reineke, T. M. Diblock glycopolymers promote colloidal stability of polyplexes and effective pDNA and siRNA delivery under physiological salt and serum conditions. *Biomacromolecules* **12**, 3015–3022 (2011).

Srinivasaraghavan, V., Strobl, J. & Agah, M. Bioimpedance rise in response to histone deacetylase inhibitor is a marker of mammary cancer cells within a mixed culture of normal breast cells. *Lab on a Chip* **12**, 5168 (2012).

Starr, T., Forsten-Williams, K. & Storrie, B. Both post-Golgi and intra-Golgi cycling affect the distribution of the Golgi phosphoprotein GPP130. *Traffic* **8**, 1265–1279 (2007).

Storrie, B., Starr, T. & Forsten-Williams, K. Using Quantitative fluorescence microscopy to probe organelle assembly and membrane trafficking. In *Membrane Trafficking* 179–192 (Humana Press, 2008).

Strobl, J. S., Nikkhah, M. & Agah, M. Actions of the anti-cancer drug suberoylanilide hydroxamic acid (SAHA) on human breast cancer cytoarchitecture in silicon microstructures. *Biomaterials* **31**, 7043–7050 (2010).

Sun, F. *et al.* Structural basis for interactions of the *Phytophthora sojae* RxLR effector Avh5 with phosphatidylinositol 3-phosphate and for host cell entry. *Mol Plant Microbe In* **26**, 330–344 (2013).

Szot, C. S., Buchanan, C. F., Freeman, J. W. & Rylander, M. N. 3D in vitro bioengineered tumors based on collagen I hydrogels. *Biomaterials* **32**, 7905–7912 (2011).

Szot, C. S., Buchanan, C. F., Freeman, J. W. & Rylander, M. N. *In vitro* angiogenesis induced by tumor-endothelial cell co-culture in bilayered, collagen I hydrogel bioengineered tumors. *Tissue Eng: Methods* **19**, 864–874 (2013).

Szot, C. S., Buchanan, C. F., Gatenholm, P., Rylander, M. N. & Freeman, J. W. Investigation of cancer cell behavior on nanofibrous scaffolds. *Mater Sci Engin* **31**, 37–42 (2011).

Timoshevskiy, V. A. *et al.* Genomic composition and evolution of *Aedes aegypti* chromosomes revealed by the analysis of physically mapped supercontigs. *BMC Biol* **12**, 27 (2014).

Timoshevskiy, V. A. *et al.* An integrated linkage, chromosome, and genome map for the yellow fever mosquito *Aedes aegypti*. *PLoS Negl Trop Dis* **7**, e2052 (2013).

Timoshevskiy, V. A., Sharma, A., Sharakhov, I. V. & Sharakhova, M. V. Fluorescent *in situ* hybridization on mitotic chromosomes of mosquitoes. *J Vis Exp* **67**, 4215 (2012).

Traver, B. E., Anderson, M. a. E. & Adelman, Z. N. Homing endonucleases catalyze double-stranded DNA breaks and somatic transgene excision in *Aedes aegypti*. *Insect Mol Biol* **18**, 623–633 (2009).

Tyler, B. M. *et al.* Microbe-independent entry of oomycete RxLR effectors and fungal RxLR-like effectors into plant and animal cells is specific and reproducible. *Mol Plant Microbe In* **26**, 611–616 (2013).

Umanzor-Alvarez, J. *et al.* Near-infrared laser delivery of nanoparticles to developing embryos: A study of efficacy and viability. *Biotechnol J* **6**, 519–524 (2011).

Varga, J. J., Therit, B. & Melville, S. B. Type IV Pili and the CcpA protein are needed for maximal biofilm formation by the gram-positive anaerobic pathogen *Clostridium perfringens*. *Infect Immun* **76**, 4944–4951 (2008).

Vaughan, M. M. *et al.* Formation of the unusual semivolatile diterpene rhizathalene by the *Arabidopsis* class I terpene synthase TPS08 in the root stele is involved in defense against belowground herbivory. *Plant Cell* **25**, 1108–1125 (2013).

Walters, A. H., Saacke, R. G., Pearson, R. E. & Gwazdauskas, F. C. The incidence of apoptosis after IVF with morphologically abnormal bovine spermatozoa. *Theriogenology* **64**, 1404–1421 (2005).

Wang, Q., *et al.* Identification of a dolabellane type diterpene synthase and other root-expressed diterpene synthases in *Arabidopsis*. *Front Plant Sci* **5**: 1761 (2016).

Williams, S.P., Rangarajan, P., Donahue, J.L., Hess, J.E., & Gillasp, G.E. Regulation of sucrose non-fermenting related kinase 1 genes in *Arabidopsis thaliana*. *Front Plant Sci* **7**: 1–13 (2014).

Williams, S. R., Lepene, B. S., Thatcher, C. D. & Long, T. E. Synthesis and characterization of poly(ethylene glycol)–glutathione conjugate self-assembled nanoparticles for antioxidant delivery. *Biomacromolecules* **10**, 155–161 (2009).

Xia, A. *et al.* Genome landscape and evolutionary plasticity of chromosomes in malaria mosquitoes. *PLoS ONE* **5**, e10592 (2010).

Xia, A., Sharakhova, M. V. & Sharakhov, I. V. Reconstructing an inversion history in the *Anopheles gambiae* complex. In *Comparative Genomics* 136–148 (2007).

Xia, A., Sharakhova, M. V. & Sharakhov, I. V. Reconstructing Ancestral Autosomal Arrangements in the *Anopheles gambiae* Complex. *J Comp Biol* **15**, 965–980 (2008).

You, C., Zhang, X.-Z., Sathitsuksanoh, N., Lynd, L. R. & Zhang, Y.-H. P. Enhanced microbial utilization of recalcitrant cellulose by an *ex vivo* cellulosome-microbe complex. *Appl Environ Microbiol* **78**, 1437–1444 (2012).

Yuan, R. *et al.* Low-grade inflammatory polarization of monocytes impairs wound healing. *J Pathol* **238**, 571–583 (2016).

Zaborowska, M. *et al.* Microporous bacterial cellulose as a potential scaffold for bone regeneration. *Acta Biomaterialia* **6**, 2540–2547 (2010).

Zhang, J. *et al.* Positive-strand RNA viruses stimulate host phosphatidylcholine synthesis at viral replication sites. *PNAS* **113**, E1064–E1073 (2016).

Zhang, W., Bryson, D. I., Crumpton, J. B., Wynn, J. & Santos, W. L. Targeting folded RNA: a branched peptide boronic acid that binds to a large surface area of HIV-1 RRE RNA. *Org Biomol Chem* **11**, 6263–6271 (2013).

Zhao, C., Avci, U., Grant, E. H., Haigler, C. H. & Beers, E. P. XND1, a member of the NAC domain family in *Arabidopsis thaliana*, negatively regulates lignocellulose synthesis and programmed cell death in xylem. *Plant J* **53**, 425–436 (2008).

Zhao, C., Craig, J. C., Petzold, H. E., Dickerman, A. W. & Beers, E. P. The xylem and phloem transcriptomes from secondary tissues of the *Arabidopsis* root-hypocotyl. *Plant Physiol* **138**, 803–818 (2005).

Zhao, Z. *et al.* Membrane targeting of TIRAP is negatively regulated by phosphorylation in its phosphoinositide-binding motif. *Sci Rep* **7**: 43043 (2017).

Zhao, Z. *et al.* Rationalization of a nanoparticle-based nicotine nanovaccine as an effective next-generation nicotine vaccine: a focus on hapten localization. *Biomaterials* **138**: 46–56 (2017).

Zimmermann, K. A. *et al.* Single-walled carbon nanohorns decorated with semiconductor quantum dots to evaluate intracellular transport. *J Nanopart Res* **16**, 1–18 (2014).