

Prof. John Heuser

Publications List (as of May 2013)

Huang, R. H., Y. Wang, R. Roth, X. Yu, A. R. Purvis, J. E. Heuser, E. H. Egelman and J. E. Sadler (2008). Assembly of Weibel-Palade body-like tubules from N-terminal domains of von Willebrand factor. Proc Natl Acad Sci U S A 105: 482-487.

Hanson, P. I., R. Roth, Y. Lin and J. E. Heuser (2008). Plasma membrane deformation by circular arrays of ESCRT-III protein filaments. J Cell Biol 180: 389-402.

Kim, Y., J. E. Heuser, C. M. Waterman and D. W. Cleveland (2008). CENP-E combines a slow, processive motor and a flexible coiled coil to produce an essential motile kinetochore tether. J Cell Biol 181: 411-9. PMID: 18443223

Galkin, V. E., X. Yu, J. Bielnicki, J. Heuser, C. P. Ewing, P. Guerry and E. H. Egelman (2008). Divergence of quaternary structures among bacterial flagellar filaments. Science 320: 382-385. PMID: 18420936

Soman, N. R., G. M. Lanza, J. M. Heuser, P. H. Schlesinger and S. A. Wickline (2008). Synthesis and characterization of stable fluorocarbon nanostructures as drug delivery vehicles for cytolytic peptides. Nano Lett 8: 1131-1136. PMID: 18302330

Sheridan, S. D., X. Yu, R. Roth, J. E. Heuser, M. G. Sehorn, P. Sung, E. H. Egelman and D. K. Bishop (2008). A comparative analysis of Dmc1 and Rad51 nucleoprotein filaments. Nucleic Acids Res 36: 4057-4066. PMID: 18535008

Keyel PA, Thieman JR, Roth R, Erkan E, Everett ET, Watkins SC, Heuser JE, Traub LM. (2008) The AP-2 adaptor beta2 appendage scaffolds alternate cargo endocytosis. Mol Biol Cell. 19:5309-5326. PMID: 18843039

White M, Kingma P, Tecle T, Kacak N, Linders B, Heuser J, Crouch E, Hartshorn K. (2008) Multimerization of surfactant protein D, but not its collagen domain, is required for antiviral and opsonic activities related to influenza virus. J Immunol. 181(11):7936-7943. PMID: 19017984

Ren PH, Lauckner JE, Kachirskia I, Heuser JE, Melki R, Kopito, RR (2009)
Cytoplasmic penetration and persistent infection of mammalian cells by polyglutamine aggregates.
Nat Cell Biol. 11: 219-225. PMID: 19151706

Huang J, Roth R, Heuser JE, Sadler JE. (2009)
Integrin alpha(v)beta(3) on human endothelial cells binds von Willebrand factor strings under fluid shear stress.
Blood. 113:1589-1597. PMID: 18927433

Martens EC, Roth R, Heuser JE, & JI Gordon (2009)
Coordinate regulation of glycan degradation and polysaccharide capsule biosynthesis by a prominent human gut symbiont.
J Biol Chem. 284:18445-18457. PMID: 19403529

Guiton PS, Hung CS, Kline KA, Roth R, Kau AL, Hayes E, Heuser J, Dodson KW, Caparon MG, Hultgren SJ (2009)
Contribution of autolysin and Sortase a during Enterococcus faecalis DNA-dependent biofilm development.
Infect Immun. 77:3626-38. PMID: 19528211

Soman NR, Baldwin SL, Hu G, Marsh JN, Lanza GM, Heuser JE, Arbeit JM, Wickline SA, Schlesinger PH. (2009)
Molecularly targeted nanocarriers deliver the cytolytic peptide melittin specifically to tumor cells in mice, reducing tumor growth.
J Clin Invest. 119:2830-2842. PMID: 19726870

Brady RJ, Damer CK, Heuser JE, O'Halloran TJ. (2010)
Regulation of Hip1r by epsin controls the temporal and spatial coupling of actin filaments to clathrin-coated pits.
J Cell Sci. 123: 3652-3661 PMCID: PMC2964106 PMID: 20923836

Keyel, PA, Loulcheva. L., Roth, R., Salter, RD, Watkins, SC, Yokoyama, WM, and JE Heuser (2011)
Streptolysin O clearance via sequestration into blebs that bud passively from the plasma membrane
J Cell Sci. 124: 2414-2423. PMCID: PMC3124372 PMID: 21693578

Hung, C., Cusumano, C., Pinkner, J., Roth, R., Walker, J., Heuser, J., Henderson, J. & S.C. Hultgren (2011)
Formation of Uropathogenic *E. coli* Pellicle Biofilm Involves Clonal Expansion and Extensive Fiber Formation.
J Bacteriol. 341: 348-356 PMID: 34606189

Martínez-Martín N, Fernández-Arenas E, Cemerski S, Delgado P, Turner M, Heuser J, Irvine DJ, Huang B, Bustelo XR, Shaw A, Alarcón B. (2011)
T cell receptor internalization from the immunological synapse is mediated by TC21 and RhoG GTPase-dependent phagocytosis.
Immunity. 35: 208-222 PMID: 21820331

Yuan S, Yu X, Asara JM, Heuser JE, Ludtke SJ, Akey CW. (2011)
The holo-apoptosome: activation of procaspase-9 and interactions with caspase-3
Structure. 19: 1084-1096. PMCID: PMC3155825 PMID: 21827945

Heuser JE. (2011)
The origins and evolution of freeze-etch electron microscopy.
J Electron Microsc. 60 Suppl 1:S3-29. PMCID: PMC3202940 PMID: 21844598

Karotki L, Huiskonen JT, Stefan CJ, Ziolkowska NE, Roth R, Surma MA, Krogan NJ, Emr SD, Heuser J, Grunewald K, Walther TC. (2011)
Eisosome proteins assemble into a membrane scaffold.
J Cell Biol. 195: 889-902 PMCID: PMC3257569 PMID: 22123866

Numata T, Murakami T, Kawashima F, Morone N, Heuser JE, Takano Y, Ohkubo K, Fukuzumi S, Mori Y, Imahori H. (2012)
Utilization of photoinduced charge-separated state of donor-acceptor-linked molecules for regulation of cell membrane potential and ion transport.
J Am Chem Soc. 134:6092-6095. PMID: 22449129

The control of ion transport across cell membranes by light is an attractive strategy that allows targeted, fast control of precisely defined events in the biological membrane. Here we report a novel general strategy for the control of membrane potential and ion transport by using charge-separation molecules and light. Delivery of charge-separation molecules to the plasma membrane of PC12 cells by a membranous nanocarrier and subsequent light irradiation led to depolarization of the membrane potential as well as inhibition of the potassium ion flow across the membrane. Photoregulation of the cell membrane potential and ion transport by using charge-separation molecules is highly promising for control of cell functions.

Filbert EL, Le Borgne M, Lin J, Heuser JE, Shaw AS. (2012)
Stathmin regulates microtubule dynamics and microtubule organizing center polarization in activated T cells.
J Immunol. 188 :5421-5427. PMCID: PMC3358357 PMID: 22529300

Tanaka T, Takahashi K, Yamane M, Tomida S, Nakamura S, Oshima K, Niwa A, Nishikomori R, Kambe N, Hara H, Mitsuyama M, Morone N, Heuser JE, Yamamoto T, Watanabe A, Sato-Otsubo A, Ogawa S, Asaka I, Heike T, Yamanaka S, Nakahata T, Saito MK. (2012)
Induced pluripotent stem cells from CINCA syndrome patients as a model for dissecting somatic mosaicism and drug discovery.
Blood. 120:1299-1308. PMID: 22723549

Minami I, Yamada K, Otsuji TG, Yamamoto T, Shen Y, Otsuka S, Kadota S, Morone N, Barve M, Asai Y, Tenkova-Heuser T, Heuser JE, Uesugi M, Aiba K, Nakatsuji N. (2012)
A small molecule that promotes cardiac differentiation of human pluripotent stem cells under defined, cytokine- and xeno-free conditions.
Cell Rep. 2012 Nov 29;2(5):1448-1460. PMID: 23103164

Kadota S, Minami I, Morone N, Heuser JE, Agladze K, Nakatsuji N. (2012)
Development of a reentrant arrhythmia model in human pluripotent stem cell-derived cardiac cell sheets.
Eur Heart J. 34:1147-1156. PMID: 23201623

Heuser J. (2012)
John Heuser: capture the moment. Interview by Caitlin Sedwick.
J Cell Biol. 199: 868-869 PMCID: PMC3518215 PMID: 23229894

Harding CV, Heuser JE, Stahl PD (2013).
Exosomes: looking back three decades and into the future.
J Cell Biol. 200:367-371 PMCID: PMC3575527 PMID: 23420870