In this issue

Georgette B. Salieb-Beugelaar, Bei Zhang, Maurice M. Nigo, Sieghard Frischmann and Patrick R. Hunziker

Improving diagnosis of pneumococcal disease by multiparameter testing and micro/nanotechnologies

DOI 10.1515/ejnm-2016-0012
Eur. J. Nanomed. 2016; 8(3): 115–128

Critical Review: This review presents the importance of multi-parametric testing for diagnosing pneumococcal infections in patients with fever and examines recent relevant developments in micro/nanotechnologies to achieve this goal. The figure is a 3D protein structure of pneumolysin, one of the virulent factors of *S. pneumoniae* [image with permission from the RCSB PDB (www.rcsb.org) of PDB ID 2bk1 [Tilley SJ, Orlova EV, Gilbert RJ, Andrew PW, Saibil HR. "Structural basis of pore formation by the bacterial toxin pneumolysin." Cell 2015;121:247–56].

Keywords: immunoassays; microfluidics; nanodiagnostics; nanotechnology; pneumococcal disease; point-of-care; rapid tests.

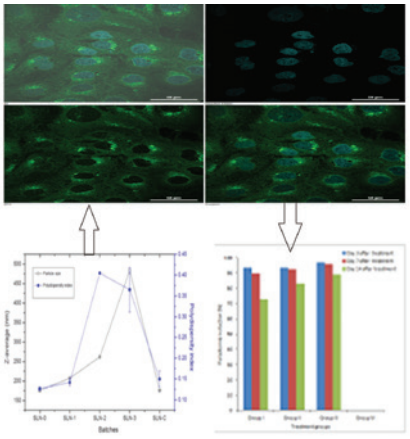
Anthony A. Attama, Franklin C. Kenechukwu, Ebele B. Onuigbo, Petra O. Nnamani, Nicholas Obitte, Jahn H. Finke, Sascha Pretor and Christel C. Müller-Goymann

Solid lipid nanoparticles encapsulating a fluorescent marker (coumarin 6) and antimalarials – artemether and lumefantrine: evaluation of cellular uptake and antimalarial activity

DOI 10.1515/ejnm-2016-0009
Eur. J. Nanomed. 2016; 8(3): 129–138

Original Article: Stable SLNs encapsulating artemether and lumefantrine produced with a micro channel high pressure homogenizer were taken up by plasmodium-infected erythrocytes after oral administration leading to high clearance of parasitemia in mice.

Keywords: artemether; cellular uptake; crystal properties; lumefantrine; parasitemia reduction; solid lipid nanoparticle.



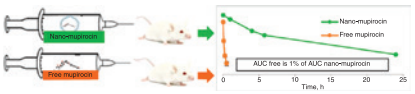
Ahuva Cern, Ayelet Michael-Gayego, Yaelle Bavli, Erez Koren, Amiram Goldblum, Allon E. Moses, Yan Q. Xiong and Yechezkel Barenholz

Nano-mupirocin: enabling the parenteral activity of mupirocin

DOI 10.1515/ejnm-2016-0006
Eur. J. Nanomed. 2016; 8(3): 139–149

Original Article: Mupirocin is an antibiotic with a unique mode of action. It is currently limited to topical use by its pharmacokinetics. Nano-mupirocin enabled mupirocin's parenteral therapy, through improved pharmacokinetic/bio-distribution profile, in animal models.

Keywords: antibiotic; computer-based identification; nano-liposomes; repurposing.



Weifei Lu, Hao Hong and Weibo Cai

Radio-nanomaterials for biomedical applications: state of the art

DOI 10.1515/ejnm-2016-0011
Eur. J. Nanomed. 2016; 8(3): 151–170

Review: With proper functionalization and cargo loading, radioactive nanomaterials can prove to be extremely useful tools for material pharmacokinetic determination, imaging (diagnosis) of diseases, and therapeutic delivery into the diseased sites.

Keywords: in vivo distribution; positron emission tomography; radiation therapy; radioactive nanomaterials; radiolabel; single-photon emission computed tomography.