In this issue

Antonio Pietroiusti, Lang Tran and Luisa Campagnolo

Nanosafety forum for young scientists: a meeting report

DOI 10.1515/ejnm-2015-0019
Eur. J. Nanomed. 2015; 7(3): 181–189

Meeting Report: Under the auspices of the EU Nanosafety Cluster and the contribution of the Cost Action Modena, a Forum was held in Syracuse (Sicily, Italy, 8/9 October 2014) where young scientists came together to discuss hot topics in nanotoxicology.

Keywords: meeting report; nanosafety; young scientists.

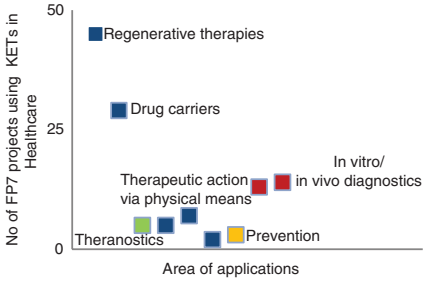
Susanne Bremer-Hoffmann, Valeria Amenta and François Rossi

Nanomedicines in the European translational process

DOI 10.1515/ejnm-2015-0027
Eur. J. Nanomed. 2015; 7(3): 191–202

Short Communication: The European Commission has financed projects for about 600 million Euro in the 7th framework programme using nanotechnologies/biomaterial in healthcare. Methods assessing their quality, safety and efficacy must be made available in order to progress these next generation nanomedicines towards clinical applications.

Keywords: authorised nanomedicines; EU clinical trial register; FP7 projects; pharmaceutical gaps; World Health Organisation.



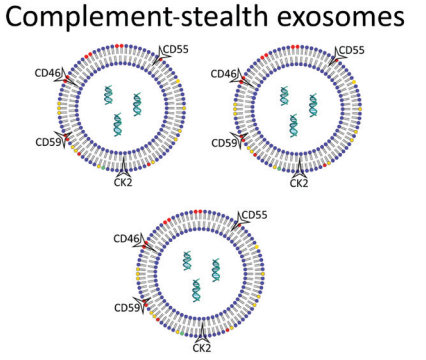
Gergely Milosevits, János Szebeni and Silke Krol

Exosomes: potential model for complement-stealth delivery systems

DOI 10.1515/ejnm-2015-0005
Eur. J. Nanomed. 2015; 7(3): 207–218

Review: Exosomes have complement-stealth properties that make them an ideal model for delivery systems. This review focuses on their interaction with the immune system and possibilities for clinical applications.

Keywords: complement; drug delivery; exosome; liposome; nanocarrier.



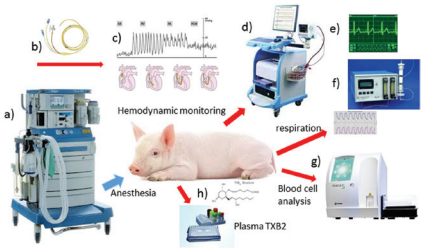
Rudolf Urbanics, Péter Bedőcs and János Szebeni

Lessons learned from the porcine CARPA model: constant and variable responses to different nanomedicines and administration protocols

DOI 10.1515/ejnm-2015-0011
Eur. J. Nanomed. 2015; 7(3): 219–231

Review: This contribution deals with the porcine CARPA model - its instrumentation and physiological endpoints.

Keywords: anaphylatoxins; anaphylaxis; animal models; hemodynamic changes; hypersensitivity reactions; pseudoallergy.



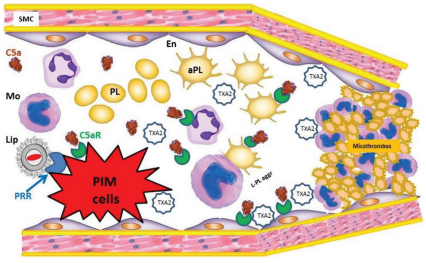
Zsófia Patkó and János Szebeni

Blood cell changes in complement activation-related pseudoallergy

DOI 10.1515/ejnm-2015-0021
Eur. J. Nanomed. 2015; 7(3): 233–244

Mini Review: This contribution deals with cellular and molecular interactions underlying pulmonary hypertension and capillary blockage during CARPA.

Keywords: anaphylatoxins; animal models; hypersensitivity reactions; platelets; pseudoallergy; white blood cells.



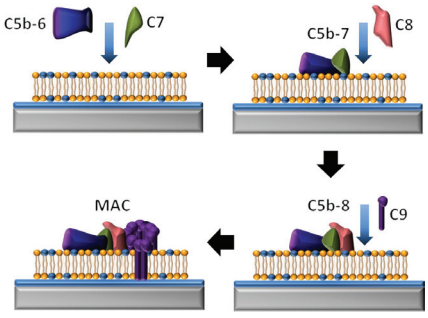
Saziye Yorulmaz, Seyed R. Tabaei, Myunghee Kim, Jeongeun Seo, Walter Hunziker, János Szebeni and Nam-Joon Cho

Membrane attack complex formation on a supported lipid bilayer: initial steps towards a CARPA predictor nanodevice

DOI 10.1515/ejnm-2015-0016
Eur. J. Nanomed. 2015; 7(3): 245–255

Short Communication: We present a novel approach to quantitatively measure complement activation on a supported lipid bilayer platform via detection of the membrane attack complex, (MAC). This immediate measure of C activation could find diagnostic utility with a real-time measurement format.

Keywords: bedside diagnosis; complement; ELISA; hypersensitivity reactions; immune toxicity; solvent-assisted lipid bilayer (SALB) formation method; support lipid bilayer.



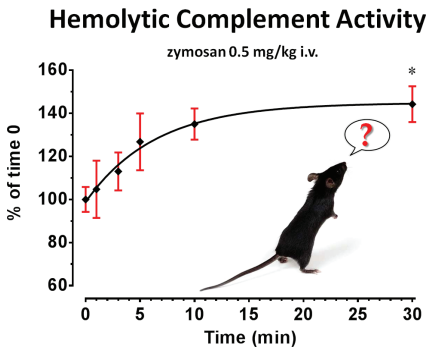
Tamás Mészáros, Gábor Szénási, László Rosivall, János Szebeni and László Dézsi

Paradoxical rise of hemolytic complement in the blood of mice during zymosan- and liposome-induced CARPA: a pilot study

DOI 10.1515/ejnm-2015-0022
Eur. J. Nanomed. 2015; 7(3): 257–262

Short Communication: Complement activation in mice by zymosan and liposomal drugs led to striking "paradoxical" increase in hemolytic complement activity, which could be explained by hemoconcentration and/or increased plasma complement levels.

Keywords: anaphylatoxins; anaphylaxis; ApoE; complement; hypersensitivity reactions.



S. Moein Moghimi, Peter P. Wibroe, Linping Wu and Z. Shadi Farhangrazi

Insidious pathogen-mimicking properties of nanoparticles in triggering lectin pathway of the complement system

DOI 10.1515/ejnm-2015-0014
Eur. J. Nanomed. 2015; 7(3): 263–268

Commentary: The surface architecture of polymeric nanoparticles (right panel) may transiently resemble *N*-acetyl-D-glucosamine, thus making them prone to recognition by mannose binding lectin (MBL) and ficolins resulting in activation of lectin pathway of the complement system.

Keywords: drug delivery; infusion-related reactions; innate immunity; nanoparticles; nanomedicine; polymers.