In this issue

Stephen Patrick Loughran, Cian Michael McCrudden and Helen Olga McCarthy

**Designer peptide delivery systems for gene therapy**

DOI 10.1515/ejnm-2014-0037

**Review Article:** From ‘needle to nucleus’: The journey of self-assembling, multifunctional peptide nanoparticles, the extra- and intra-cellular barriers they face and the mechanisms by which these barriers are overcome.

**Keywords:** biological barriers; DNA; gene therapy; non-viral; peptide.

Khaled Messaoudi, Anne Clavreul, Fabienne Danhier, Patrick Saulnier, Jean-Pierre Benoit and Frederic Lagarce

**Combined silencing expression of MGMT with EGFR or galectin-1 enhances the sensitivity of glioblastoma to temozolomide**

DOI 10.1515/ejnm-2014-0041

**Original Article:** Treatment of U87MG glioblastoma cells by the combination of anti-EGFR, anti-galectin-1 and anti-MGMT siRNAs carried by chitosan-LNCs increased their sensitivity to temozolomide compared to their treatment with these siRNAs used separately.

**Keywords:** EGFR; galectin-1; glioblastoma; MGMT; SiRNA; temozolomide.

Eloísa Berbel Manaia, Renata Cristina Kiatkoski Kaminski, Bruno Leonardo Caetano, Valérie Briois, Leila Aparecida Chiavacci and Claudie Bourgaux

**Surface modified Mg-doped ZnO QDs for biological imaging**

DOI 10.1515/ejnm-2014-0047

**Original Article:** Mg-doped ZnO QDs with surface modified by oleic acid, synthesized via sol-gel route, displayed strong visible fluorescence (QY = 38%) and colloidal stability in non-polar environments, promising for biological imaging.

**Keywords:** biological imaging; Mg-doped ZnO quantum dots; SAXS; sol-gel process.
Marion Pitorre, Guillaume Bastiat, Elodie Marie dit Chatel and Jean-Pierre Benoit

**Passive and specific targeting of lymph nodes: the influence of the administration route**

DOI 10.1515/ejnm-2015-0003

**Original Article:** Specific targeting of right and left inguinal, axillary and cervical lymph nodes (Sprague-Dawley rats) after lipid nanocapsule subcutaneous administration behind the neck, in the right and left flanks and above the tail.

**Keywords:** lipid nanocapsules; lymph-node targeting; subcutaneous administration.

Carolyn J. Henry

**Unleashing the power of comparative oncology models in nanomedicine research**

DOI 10.1515/ejnm-2014-0046

**Short Communication:** Cancer risk in dogs approximates that of people – often with similar etiology and biologic behavior. Thus, tumor-bearing dog studies may provide results that are more readily translatable to human oncology.

**Keywords:** canine; model; oncology; preclinical; translational.