

## In this issue

Stephen Patrick Loughran, Cian Michael McCrudden and Helen Olga McCarthy

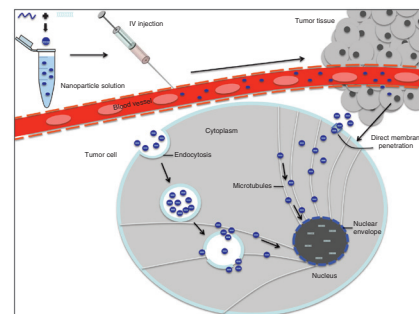
### Designer peptide delivery systems for gene therapy

DOI 10.1515/ejnm-2014-0037

Eur. J. Nanomed. 2015; 7(2): 85–96

**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

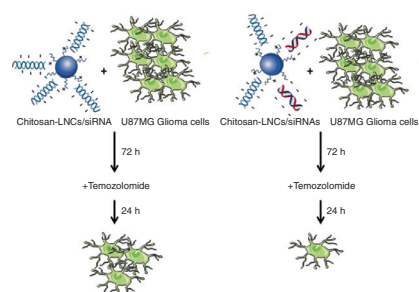
### Combined silencing expression of MGMT with EGFR or galectin-1 enhances the sensitivity of glioblastoma to temozolomide

DOI 10.1515/ejnm-2014-0041

Eur. J. Nanomed. 2015; 7(2): 97–107

**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

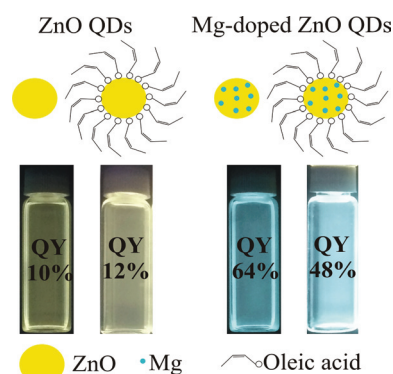
### Surface modified Mg-doped ZnO QDs for biological imaging

DOI 10.1515/ejnm-2014-0047

Eur. J. Nanomed. 2015; 7(2): 109–120

**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.

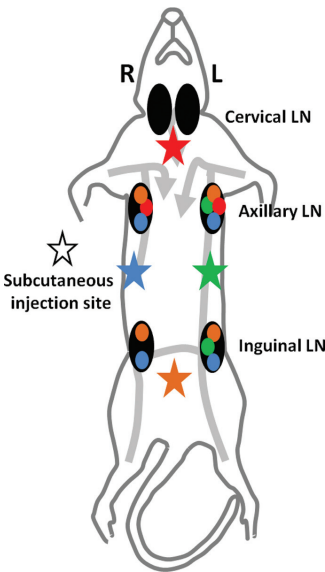


Marion Pitorre, Guillaume Bastiat,  
Elodie Marie dit Chatel and  
Jean-Pierre Benoit  
**Passive and specific targeting of  
lymph nodes: the influence of the  
administration route**

DOI 10.1515/ejnm-2015-0003  
Eur. J. Nanomed. 2015; 7(2): 121–128

**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  
Eur. J. Nanomed. 2015; 7(2): 129–133

**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.

General advantages of pet dog cancer clinical trials
Cancer develops spontaneously, rather than being artificially induced
Diagnostic and staging methods are analogous
Shortened life span compared to people
More control over confounding variables than with human subjects
Ability to study therapy in minimal residual disease setting
Genetic and pedigree information may be available
Trial approval process is simplified
Biosampling advantages
Additional funding opportunities may be available