

# **SPECIAL SEMINAR**

**Thursday 30/05/19, 14:00 pm**

**Building 211, seminar room**

## **SPEAKER:**

**Prof. Sophia G. Antimisiaris**

Dept. of Pharmacy

University of Patras, Greece

## **TOPIC:**

**"Cellular vesicles for targeted drug  
delivery? New Insights"**

In the last 8 years we have studied a number of targeted liposomes, as nanoparticle based drug delivery systems for brain-located pathologies, and especially for Alzheimers Disease (AD) [1-9]. For in vitro evaluation BBB targeting potential of targeted liposomes, we used the hCMEC/D3 cellular model of the BBB. In vivo studies were carried out by live animal imaging after iv administration of DiR-labelled liposomes, in normal mice and APP/PS1 double transgenic mice and their wild-type (WT) littermates. Interesting conclusions have been drawn, however the liposomes targeting potential was not increased more than 4 times (compared to plain pegylated liposomes), even in the case of multi-targeted nanocarriers.

Recently, cellular vesicles have been proposed as alternative of exosomes or extracellular vesicles as targeted drug carriers [10]. We have prepared various types of cellular vesicles, were constructed using liposome-technology engineering methodologies, and were tested (in vitro and in vivo) under identical conditions with those used before for the targeted liposomes. The results of these latter studies confirm that exploitation of the targeting components of cellular vesicles may potentially lead to construction of superior types of drug-carriers for theragnosis of brain localized diseases [11].

## References

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