# 2010 ESICM ECCRN Awards
# Project report

**Name**: Katerina Vaporidi

**Project title**: Targeting microRNA expression as a therapeutic strategy for ventilator-induced lung injury

**Award**: Basic Science Research Award

**Project start date: 1/1/2011**

**Project end date: 30/09/2012**

## Interim report

*Investigators are asked to supply the following information:*

*Before final publication: advancement of the study (number of patients or animals included so far) and references of abstract published. This information will be made public. A brief summary of your findings is needed for internal files.*

*After final publication, a summary of the data, which will be available to the members on website and references of the final paper (and derived manuscripts, whenever apply)*

### Project overview:

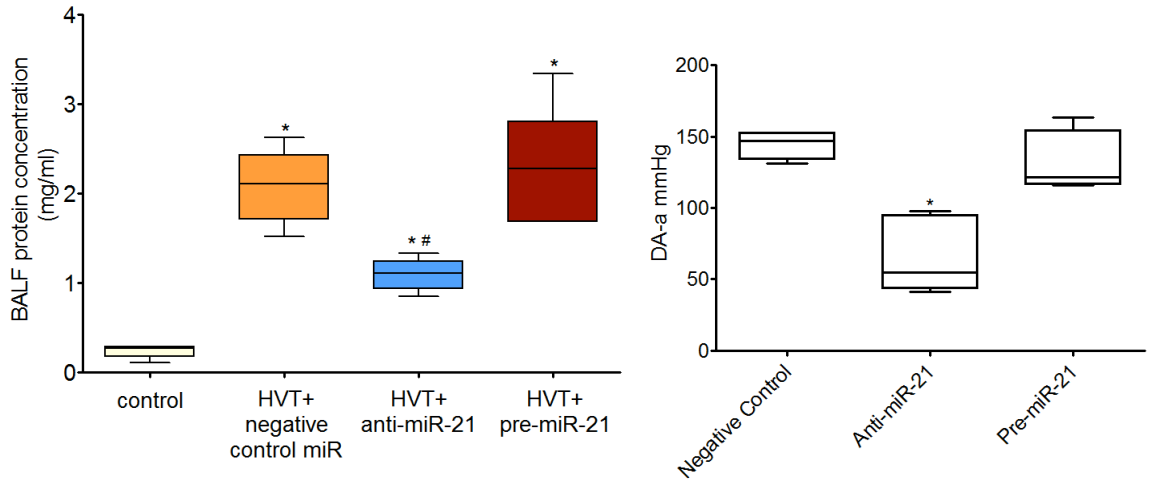
*Please provide a short overview of the project performed using the funds provided by the ESICM*

Aim of the study was to investigate effects of modulation of miRNA expression in a mouse model of VILI. We have proposed that we will examine the effects of intratracheal administration of sense or antisense miRNAs for miR-9, miR-21, miR-223, miR-155, let-7 on the development of VILI. So far we have analyzed the effects intratracheal administration of sense or antisense miR-21, and we are currently working with let-7.

**Results:**

*Please provide a summary of the results obtained, incl. number of patients/animals included (if applicable)*

We have studied the role of miR-21 in VILI by treating mice with either a precursor or an antagonist of miR-21 or a negative control miR and subsequently subjecting mice to high tidal volume ventilation. We have studied 7 mice per group. We found that anti-miR-21 protected mice from the development of VILI, as indicated by preserved lung compliance, lower alveolar-arterial oxygen gradient and lower concentration of protein in BALF, compared to mice treated with a pre-miR-21 or a negative control miR.




**Budget justification:**

*Please provide a detailed overview of how the money awarded to you was spent*

| USE | Proposed | Spend |
|---|---|---|
| microRNA precursors - antagonists | 5000 | 2000 |
| PCR reagents | 1000 | 1000 |
| mice | 1400 | 400 |
| salaries | 12600 | 3000 |

**Abstract submitted to the ESICM Annual Congress:**

No

**Abstracts submitted to other congresses:**

No

**Publications (draft, submitted and/or accepted):**

We have included the data on the role of miR-21 on the development of VILI in a paper submitted (Pulmonary microRNA profiling in a mouse model of ventilator-induced lung injury), which is currently under review.