

# Preclinical Development of Gene Therapy

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## Propositions

Belonging to this thesis

### **Preclinical Development of Gene Therapy**

#### **The Effects of Urocortin 2 and Urocortin 3 Gene Transfer in Murine Models of Heart Failure and Diabetes**

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1. The dismal prognosis of heart failure, even with current optimal treatment, warrants the development of new clinical therapies. (this thesis)
2. Gene transfer of urocortin 2 or 3 improves function of the normal and failing heart in mice primarily via improved  $\text{Ca}^{2+}$  handling. (this thesis)
3. Even though urocortins 2 and 3 act through the same receptor, only gene transfer of urocortin 2 increases insulin sensitivity and glucose disposal. (this thesis)
4. The beneficial effects of urocortin 2 gene transfer on glucose homeostasis are corticotropin releasing factor receptor 2 dependent. (this thesis)
5. A general understanding of a therapy's mechanism of action and adverse effects would facilitate approval by drug regulatory authorities towards the initiation of clinical trials. (valorization)
6. Validation of a finding using multiple experimental techniques makes a result more persuasive.
7. The quote from Aesop's Fables "Συν Αθηνά και χείρα κίνει" (loose translation: "God helps those who help themselves"), is relevant to a scientific life and career.
8. Population mobility, a main factor of globalization, increases the support of extreme right-wing movements in many countries worldwide.

*Dimosthenis Giamouridis, 5 June 2019*