AMPK-glycogen interplay: an opportunity for drug design

Propositions belonging to the thesis entitled

AMPK–glycogen interplay: an opportunity for drug design

1. The interaction between AMPK and glycogen is of relevance for the regulation of both AMPK activity and glycogen content. (*this thesis*)
2. The development of novel drugs targeting AMPK greatly under-exploits the data from the field of structural biology. (*this thesis*)
3. Autophosphorylation at distal sites is an important, yet underappreciated mechanism of regulation of protein activity. (*this thesis*)
4. Isoeugenol derivatives target the carbohydrate-binding module of AMPK and may be further developed into a brand new class of AMPK modulators. (*this thesis*)
5. The identification of active compounds is a major step in a drug design project, but not a giant leap towards the clinic. (*this thesis*)
6. Drug discovery is not like finding a needle in a haystack, but rather like searching for a specific needle in a very large stack of needles. (*adapted from Scott J. Lusher et al., Drug Discovery Today, 2011*)
7. A signaling hub like AMPK must show heterogeneity in post-translational modifications, subcellular localization and splicing.
8. From an evolutionary point of view, insulin resistance results from an inappropriate adaptation of survival mechanisms used in times of famine, infection and stress. (*adapted from Agathocles Tsatsoulis et al., Metabolism: Clinical and Experimental, 2013*)
9. If you close the door to all errors, the truth shall remain outside. (*Rabindranath Tagore*)
10. On fait la science avec des faits, comme on fait une maison avec des pierres: mais une accumulation de faits n'est pas plus une science qu'un tas de pierres n'est une maison. [Science is built up of facts as a house is with stones: but a collection of facts is no more a science than a heap of stones is a house.] (*Henri Poincaré*)
11. This thesis is the fruit of the saying "Science knows no border", or rather of "De wetenschap kent geen grenzen, Wissenschaft kennt keine Grenzen, bilim sınır tanımaz, la science ne connait pas de frontières"!

Marie Miglianico - October 23, 2015