AMPK AS A TARGET: NEW PERSPECTIVES

Aims & Scope:

Adenosine monophosphate-activated protein kinase (AMPK), the master regulator of cell energy levels, is activated by low adenosine triphosphate (ATP) levels that, in turn, increases glucose transport, fatty acid oxidation and mitochondrial biogenesis. Furthermore, AMPK is also involved in the control of inflammatory processes. Recent studies also indicate that the sensitivity of AMPK to cellular stress declines with aging and this could impair downstream signaling and the maintenance of cellular energy balance and stress resistance. AMPK impairment decrease mitochondrial biogenesis, increase cellular stress and inflammation, which are typical events of the aging process. AMPK alterations have been demonstrated in several diseases as diabetes mellitus, fibromyalgia, cardiovascular diseases, neuropathic pain, being an important therapeutic target. About this, several drugs have shown to induce AMPK activation; metformin, AICAR, resveratrole. The proposal of this Issue is about new perspective about AMPK as a target, including the role in several diseases and new potential drugs.

Key words: AMPK, mitochondria, inflammation, nutrition, drug target.

Subtopics:

AMPK as a target in rare diseases
AMPK as a target in aging
Nutraceutical compounds and AMPK.
Cáncer and Aging
Pathogens and AMPK

Schedule:

Manuscript submission deadline: Nov 2014
Peer Review Due: Dec 2014
Revision Due: Jan 2015
Notification of acceptance by the Guest Editor: Feb 2015
Final manuscripts due: Feb 2015