

## 9<sup>th</sup> International Webinar on **BIOTECHNOLOGY RESEARCH**

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### **Nicotinamide: A new NAD + dress for an old vitamin form in energy metabolism and inflammation**

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Vitamin B3 is commonly found in living beings as different molecular forms. Nicotinic acid is likely the most known form of vitamin B3 as it has traditionally been used for the treatment of cardiovascular diseases during decades; However, Recent human studies have questioned its therapeutic effectiveness to decrease residual cardiovascular risk. Noteworthy, in the last decade, different experimental studies have suggested that the treatment with other forms of vitamin B3, including nicotinamide (NAM), nicotinamide riboside (NR) and nicotinamide mononucleotide (NMN) conferred protection against body weight gain and adiposity by directly boosting energy metabolism in treated mice. On the other hand, NAM also protected against inflammation in different experimental settings. In this seminar, experimental evidence on the favorable effect of nutritional intervention of NAM on excess adiposity and its relationship with global dysinflammation will be shown in appropriate experimental models. NAM supplementation prevented body weight gain and reduced adiposity by enhancing adipose tissue energy metabolism and being. In independent studies, the dietary supplementation with NAM also protected against one of the main adverse outcomes, atherosclerosis, in treated mice. Particularly, reduced development of aortic atherosclerotic plaque in NAM-treated mice was decreased up to 50% compared with untreated mice and related to lower oxidability of apob-containing lipoproteins and dysinflamed aortas. These data may suggest that dietary supplementation with NAM would confer protection against obesity and development of atherosclerosis, thereby opening new therapeutic venues to combat atherosclerotic cardiovascular diseases in cardiometabolic conditions, such as obesity.

#### **Biography**

Josep Julve got his Ph.D, degree in Biology in 2000 at the University of Barcelona. He is currently employed as a researcher at the Research Institute of the Hospital de la Santa Creu i Sant Pau. His research focus is on the evaluation of different interventions on energy and lipid metabolism and their relationship with the progress of obesity and diabetes mellitus and their main complications in patients and appropriate experimental models.

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