

Special Issue

Magnesium Homeostasis and Magnesium Transporters in Human Health

Message from the Guest Editors

Magnesium (Mg) is essential for cell functions, such as ATP production, protein/DNA synthesis, protein activity, and mitochondrial function. Mg plays critical roles in heart rhythm, muscle contraction, and blood pressure. A significant decline in Mg intake has been reported in developed countries because of the increased consumption of processed food and filtered/deionized water, which can lead to hypomagnesemia (HypoMg). HypoMg is a predictor for cardiovascular and all-cause mortality and is commonly observed in cardiovascular diseases (CVD, such as heart failure, hypertension, arrhythmias, and diabetic cardiomyopathy). On the other hand, Mg supplementation has shown significant therapeutic effects in these conditions. Nevertheless, compared to Ca²⁺, Mg homeostasis and transporters are much less investigated. HypoMg has been associated with inflammation and oxidative stress for decades, both of which contribute to CVD. Understanding how Mg and its transporters are regulated in CVD can help develop easily translated therapy with Mg supplementation and new therapeutic strategies targeting Mg transporters.

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Nutrients is an on-line open access journal that was first published in 2009. *Nutrients* adheres to rigorous peer-review and editorial processes and publishes only high quality manuscripts that address important issues related to the impacts of nutrients on human health. The Impact Factor of *Nutrients* has risen rapidly since its establishment and it is now ranked in the first quartile of journals publishing in the field of nutrition and dietetics research.

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