

Special Issue on  
**Metabolism and Synthesis of Vitamin D in Health and Disease**

# CALL FOR PAPERS

Vitamin D is a secosteroid hormone, sitting within the area of nutritional chemistry and is mainly synthesised endogenously by the action of sunlight. Significant dietary sources of Vitamin D are fatty fish, animal liver, fish oils, and egg yolks. New insights into Vitamin D metabolism have led to the discovery that many organs and tissues, including brain and immune cells, have 1- $\alpha$ -hydroxylase and thus are able to produce Vitamin D. Upon this discovery, a role of Vitamin D beyond bone metabolism has emerged, notably in regulating immune response and brain function.

Vitamin D administration has been regarded as useful to prevent and treat several conditions; however, calcemic side effects limit its use; hence the search for safe Vitamin D analogues is an area of high interest. The main challenges in the field of Vitamin D research are to examine in depth its extra-renal production in relation to brain function and immune response modulation, to study its nongenomic actions concerning the surface receptors signalling pathway, and to find safe Vitamin D analogue-based drugs to both prevent and treat several diseases, such as autoimmune, neurological, and oncologic disorders.

The primary purpose of this special issue is to make a new and comprehensive description of Vitamin D metabolism and signalling. In addition, this special issue aims to clarify whether Vitamin D extrarenal metabolism could be related to cerebral and immune dysfunction and to improve the knowledge of its nongenomic actions carried out by surface receptors signalling. Studies on the regulation of extrarenal production of Vitamin D, as well as studies on the subject area of Vitamin D PDIA3 receptors, are welcome, along with original research articles on the role of the A-ring, the side chain and the CD-ring system in the modification of the biological activity in Vitamin D analogues. Critical reviews summarising significant findings in the field of Vitamin D supplementation in neurological, oncologic, and autoimmune diseases are also encouraged.

Potential topics include but are not limited to the following:

- ▶ Vitamin D metabolism: novelties on the regulation and production of extrarenal compounds
- ▶ Vitamin D/VDR signalling target genes
- ▶ PDIA3 signalling pathway and non-genomics actions of Vitamin D
- ▶ Vitamin D analogues: going toward novel therapeutic approaches to neurological and autoimmune disease
- ▶ Characterisation of Vitamin D synthesis within the brain in both physiological and pathological conditions

Authors can submit their manuscripts through the Manuscript Tracking System at <https://mts.hindawi.com/submit/journals/jchem/biochemistry/vdahd/>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

**Lead Guest Editor**

Giulia Bivona, University of Palermo, Sicily, Italy  
*giulia.bivona@unipa.it*

**Guest Editors**

Ciriaco Carru, University of Sassari, Sardinia, Italy  
*carru@uniss.it*

Marcello Ciaccio, University of Palermo, Sicily, Italy  
*marcello.ciaccio@unipa.it*

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