PPAR Research

Special Issue on

Nutrigenomics of PPARs Functions in Obesogenic Environments

CALL FOR PAPERS

In the past few decades, we have witnessed that the prevalence of chronic diseases was linked to not only nutrition deficiencies but also overnutrition. It is no exaggeration to say that "nutritional genomics/nutrigenomics," a unique technology to investigate the genome-wide effects of nutrients at molecular levels, have been contributing to the development of "nutritional science" and application of medicinal and pharmacological research.

The peroxisome proliferator-activated receptors (PPARs) are ligand-activated transcription factors orchestrating the effects of several nutrients or drugs through transcriptional regulation of their target genes. PPAR isotypes of NR1 family such as α (nuclear receptor; NR1C1), β/δ (NR1C2), and γ (NR1C3) can be distinguished by different biological roles and are mostly relevant to nutrition. PPARs exert their biologically distinctive functions in isomer-specific and tissue-specific manner, despite the fact that molecular details of tissue-dependent PPARs functions still remain uncovered. PPARs are also able to repress transcription by interacting with other transcription factors and/or coactivators, thereby interfering with other signaling pathways to control physiology. Understanding the changes of obesogenic environments as a consequence of PPARs-nutrients interactions may help us to extend the field of the individualized nutrition to prevent obesity and its associated metabolic comorbidities.

We invite researchers to contribute to this special issue of PPAR Research that focuses on "nutrigenomics of PPARs function" to control the obesogenic environments and the sum of obesity-promoting conditions. The studies of the nutritional impacts on the modulation of PPARs/cofactors related to hypertrophic or hyperplastic adipocyte expansion, degeneration of beige/brown adipogenesis, adipocyte and immune cells interactions, or lipodystrophy conditions may be preferentially accepted. This special issue of PPAR Research also honors the studies utilizing advanced biotechnological fields of biomolecular omics (transcriptomics, proteomics, metabolomics, and epigenetics), facilitating rapid progress of the nutraceutical research. In conclusion, we encourage researchers to submit original research articles including cell and molecular, animal, and human clinical studies that affect PPARs function and the modification of PPARs/cofactor interactions during the pathogenic progression of obesity and review articles related to the main theme of the special issue.

Potential topics include, but are not limited to:

- Novel cellular and/or molecular modifications of PPARs/cofactor and the changes of their mechanisms according to nutrients/diets
- The nutritional impacts on the modulation of PPARs/cofactors related to hypertrophic or hyperplastic adipocyte expansion, degeneration of beige/brown adipogenesis, cross talk between adipocyte and immune cells, or lipodystrophy conditions
- Cellular and/or molecular modifications of PPARs/cofactor-nutrients interaction to control obesogenic environments, the sum of obesity-promoting condition
- Epigenetic regulation of PPARs/cofactor on nutritional programming in obesogenic environment
- Contribution of PPARs-nutrients interacted mechanism to the fields of the nutraceutical research
- Advances in biotechnological fields of biomolecular omics (transcriptomics, proteomics, metabolomics, and epigenetics) related to the PPARs/cofactors-nutrients interaction
- Establishment of *in vitro* or *in vivo* obesity models to investigate PPARs/cofactor-nutrients interaction

Authors can submit their manuscripts via the Manuscript Tracking System at http://mts.hindawi.com/submit/journals/ppar/nppar/.

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