Transcriptional regulations of muscular diseases: implications in vascular calcification and muscular differentiation

Hyun Kook

Department of Pharmacology, Chonnam National University Medical School, Hwasun, Republic of Korea

Transcriptional regulation of epigenetic modifiers has been widely documented in diverse diseases homeostasis. My laboratory has long worked on the epigenetic regulation and posttranslational modification in cardiovascular and muscular diseases. This talk will open our recent results on the transcriptional or non-coding RNA-mediated modification of vascular calcification. In addition, new roles of histone demethylase in skeletal muscle differentiation and diseases will be discussed. The topic will be (1) Regulation of MDM2 E3 ligase-dependent vascular calcification by MSX1/2, (2) Effects of circular RNAs of circSD4a and circSM-1 on vascular calcification, and (3) Role of KDM2B and its non-histone targets in skeletal muscle differentiation.