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## Vitamin K Intake and Human Health

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### Message from the Guest Editor

All vitamin K (VK) analogs are active as a cofactor for the post-translational formation of Gla-proteins. However, of the VK analogs, menaquinone-4 (MK-4) has specific activities for various important physiological functions. Therefore, future studies must be undertaken to clarify the important role of MK-4 existence in the tissues, as well as comparative studies using vitamin K1 against MK-4 because orally ingested VK1 (or MK-n) is partially converted into MK-4 in each tissue. Studies on unique functions of MK-4, such as bone formation activity that is dependent or independent on osteocalcin, and the mechanism of anti-cancer, anti-atherosclerosis, anti-diabetes, anti-inflammation activities must be included; furthermore, studies on functions through the binding to the nuclear steroid X receptor (SXR or PXR), and on the direct effect of MK-4 on steroid hormone (testosterone) synthesis in the testis or brain must be added to this issue.



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