



Shaping Tomorrow's Nephrology: **Insight-Driven Kidney Care**

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Jun 11(Thu) – 14 (Sun), 2026

COEX, Seoul, Korea

Lecture Code : FE01-S1

Session Name : Fluid and Electrolyte

Session Topic : Potassium in Crisis: From Molecular Mechanisms to Clinical Management

Date & Time, Place : June 12 (Fri) / 10:20-12:00 / Room 2 (GBR 102), 1F

Unlocking Potassium Secretion: The Roles of Aldosterone, ROMK, and WNK Kinases

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The normal human kidney possesses a prodigious capacity to excrete dietary potassium (K⁺). This evolutionary adaptation is rooted in the high- K⁺ diets of prehistoric hominids, which are estimated to have reached 15,000 mg/day. Despite the progressive reduction in dietary K⁺ since the advent of agriculture, the modern distal nephron remains an exquisite K⁺ sensor. This review elucidates the molecular mechanisms governing kidney K⁺ handling, tracing the pathway from early enteric sensing to the structural reorganization of WNK kinases, and detailing how the interplay between aldosterone and Angiotensin II ultimately resolves the aldosterone paradox in the distal nephron.