

P74

***Raphanus sativus* L. *Chongwoun* extract inhibits vascular smooth muscle cells proliferation and induces G1 cell cycle arrest**

Sung-Kwon Moon<sup>1</sup>, Kyung-Soo Nam<sup>2</sup>, Her-Won Hwang<sup>3</sup>  
and Cheorl-Ho Kim<sup>1</sup>

<sup>1</sup>Department of Biochemistry and Molecular Biology, College of Oriental Medicine and <sup>2</sup>Department of Pharmacology, College of Medicine, Dongguk University, Sukjang-Dong 707, Kyungju City, Kyungbuk, Korea

<sup>3</sup>Faculty of Food and Biotechnology, Han-Dong University, Heun-Hae, Pohang, Kyungbuk, Korea

The abnormal growth of vascular smooth muscle cells (VSMC) is a prominent feature of vascular disease, including atherosclerosis, restenosis after angioplasty. We examined the mechanisms of the action of *Raphanus sativus* L. *Chongwoun* extract on VSMC proliferation. The viability of VSMC decreased to 35% at 24 h of treatment with *Raphanus sativus* L. *Chongwoun* extract. Treatment of *Raphanus sativus* L. *Chongwoun* extract showed potent inhibitory effects on the DNA synthesis of cultured VSMC. In addition, *Raphanus sativus* L. *Chongwoun* extract induced apoptosis using cell death ELAS assay. These inhibitory effects were associated with G1 cell cycle arrest. Treatment of *Raphanus sativus* L. *Chongwoun* extract, which induced a cell-cycle arrest in G1-phase, induced down-regulation of cyclins and CDKs and up-regulation of the CDK inhibitor p21 expression, whereas up-regulation of p27 by *Raphanus sativus* L. *Chongwoun* extract was not observed. These findings indicate the efficacy of *Raphanus sativus* L. *Chongwoun* extract in inhibiting cell proliferation, G1- to S-phase cell-cycle progress on VSMC.

**Key words :** *Raphanus sativus* L. *Chongwoun* extract, VSMC, cell cycle arrest, DNA synthesis, apoptosis