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Suppression of Mesangial Cell Proliferation and Extracellular Matrix
Production in Streptozotocin-induced Diabetic Rats by Sp1 Decoy
Oligodeoxynucleotide *in vitro* and *in vivo*

Jeong Han Kang, Young-Mi Chae, In-Seon Lee¹, Ji-Hak Jeong,
Si Hyoung Kim, Kwan-Kyu Park and Young-Chae Chang*

Department of Pathology, Catholic University of Daegu School of Medicine, Daegu 705-718, Korea

¹*The Center for Traditional Microorganism Resources (TMR), Keimyung University, Daegu 704-701, Korea*

Transcription factor Sp-1 is an important fibrogenic factor that is involved in the pathogenesis of diabetic nephropathy. In this study, we examined the effect of Sp1 decoy oligodeoxynucleotides (ODNs) on the ECM gene expression in cultured rat mesangial cells (RMC) and streptozotocin (STZ)-induced diabetic rats. The ring-type Sp1 decoy ODNs significantly decreased ECM mRNA expression and Sp1 binding to the promoter region of these PDGF-induced genes in RMC. On 14 days after ring-type Sp1 decoy ODNs injection, type IV collagen, fibronectin mRNA and protein expression were markedly decreased. These results indicated that the ring-type Sp1 decoy ODNs would be superior to P-Sp1 ODNs. Also, the R-Sp1 decoy ODN when introduced *in vivo*, effectively reduced ECM production during the progression of nephropathy.

Key words: Sp1 decoy oligodeoxynucleotides, streptozotocin, diabetic nephropathy

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Study on Biological Activity of *Phellinus linteus* Grown on Brown Rice

Hyo Ju Song, Sang Wan Gal¹ and Young Ju Choi*

Department of Food and Nutrition, College of Medical Life Science Silla University, Busan 617-736,

¹*Department of Microbiological Engineering, Jinju National University Jinju 660-758, Korea*

This study was investigated the biological and antioxidative activity of *Phellinus linteus* grown on brown rice (PBR). The contents of free amino acids were higher in the *Phellinus linteus* grown on brown rice (21.4%) than those of brown rice (3.8%) and germinated brown rice (11.2). The major free amino acids were proline, valine, leucine and GABA in the PBR.

Antioxidative activity of ethanol extract of PBR was measured by using DPPH radical scavenging and SOD-like activity. Electron donation ability on DPPH and SOD like activity of PBR ethanol extracts showed 80% and 30% at a concentration of 10 µg/ml, respectively. Stimulation and inhibition of NO production of in the presence and absence of lipopolysaccharide (LPS) in macrophage RAW 264.7 cells was examined in PBR ethanol extracts. NO production was not affected in PBR ethanol extracts. β-glucan content showed 17.2% in pBR ethanol extracts.