

# Production of Recombinant Human Granulocyte Macrophage Colony-Stimulating Factor from Silkworm *Bombyx mori* Bm5 Cells

Cho-Yi Jin<sup>a</sup>, Song-Yi Han<sup>a</sup>, Kisang Kwon<sup>a</sup>,  
Eun Young Yun<sup>b</sup>, Seok Woo Kang<sup>b</sup>,  
Tae Won Goo<sup>b</sup>, Seung-Whan Kim<sup>c</sup>, Kweon Yu<sup>d</sup>,  
and O-Yu Kwon<sup>a,\*</sup>

<sup>a</sup> Department of Anatomy, School of Medicine,  
Chungnam National University, Taejon 301-747,  
Korea. E-mail: oykwon@cnu.ac.kr

<sup>b</sup> Department of Sericulture & Entomology, National  
Institute of Agriculture Science and Technology,  
R. D. A., Suwon 441-100, Korea

<sup>c</sup> Department of Emergency Medicine, Chungnam  
National University Hospital, Taejon 301-721, Korea

<sup>d</sup> Korea Research Institute of Bioscience and  
Biotechnology, Taejon 305-333, Korea

\* Author for correspondence and reprint requests

Z. Naturforsch. **65c**, 153–156 (2010); received July 29/  
August 26, 2009

Using silkworm *Bombyx mori* Bm5 cells, we established a stable cell line expressing the human granulocyte macrophage colony-stimulating factor (hGM-CSF), which gets its name from the Bm5-hGM-CSF cell in which the glycoprotein of the hGM-CSF is secreted in the cell culture supernatant (CCS). It was demonstrated that secreted hGM-CSF had *in vivo* biological activity and the white blood cell (WBC) value increased two times that of the control. We expect to produce useful human recombinant glycoproteins from silkworm cultured cells for a low price and a large quantity.

**Key words:** Silkworm *Bombyx mori* Bm5 Cells, Human Granulocyte Macrophage Colony-Stimulating Factor, White Blood Cell