

Fine Structural Analysis of the Cardiac Muscle Cells in Spider, *Araneus ventricosus*

Jae-Young Choi and Myung-Jin Moon

Department of Biological Sciences, Dankook University

Fine structural characteristics of the cardiac muscle cells in spider, *Araneus ventricosus* have been investigated by light and transmission electron microscopes. The heart tube consists of a thin outer layer(epicardium) composed of connective tissue and the actual muscle layer(myocardium) that forms the tubular heart lumen. The heart muscle cells are cross striated, branched, and multineucleated. In contrast to regular vertebrate skeletal muscles, they contain many mitochondria, which provide for the continuous energy demand of the heart. Threadlike ganglion on the dorsal side of the heart tube gives off axons that innervate the heart muscle cells. Numerous hemocytes such as prehemocytes, granulocytes and plasmatocytes accumulated among the myocardial projections which were stretched toward heart lumen.