

SPACE LIFE SCIENCES SYMPOSIUM (A1)
Biology in Space (7)

Author: Dr. zhang yue
China, yzhang@sippe.ac.cn

REORIENTATION OF CORTICAL MICROTUBULES IN HYPOCOTYL CELLS OF ARABIDOPSIS
THALIANA UNDER CLINOROTATION

Abstract

Gravitropic curvature results from unequal growth rates on the upper and lower sides of horizontal stems which could be due to differences in wall extensibility, sensitivity to auxin, cell wall thickness, and reorientation of the microtubules between the two sides of horizontal stem, the mechanisms underlying this process are still poorly understood. In this paper, Arabidopsis hypocotyl was found to curve at constant position under gravistimulation. This position divides the hypocotyl as two different parts. The upper part elongates more rapid than the lower part. The cortical microtubules reoriented much more as random way in the upper part than the lower part after clinostat. The cortical microtubules of upper part are more sensitive to propyzamide and exogenous IAA. These difference might lead to the different phenotype of the hypocotyl under gravistimulation.