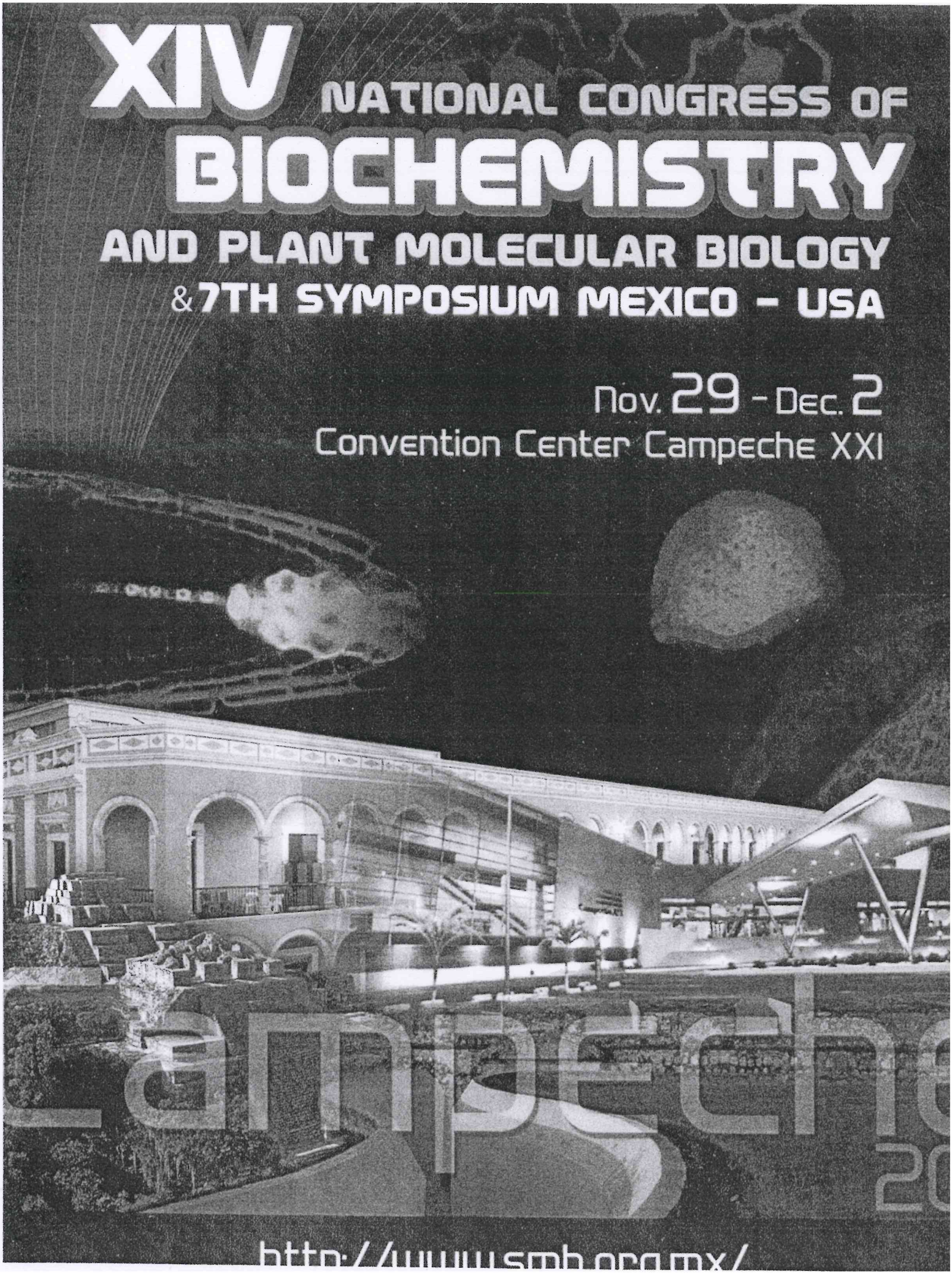
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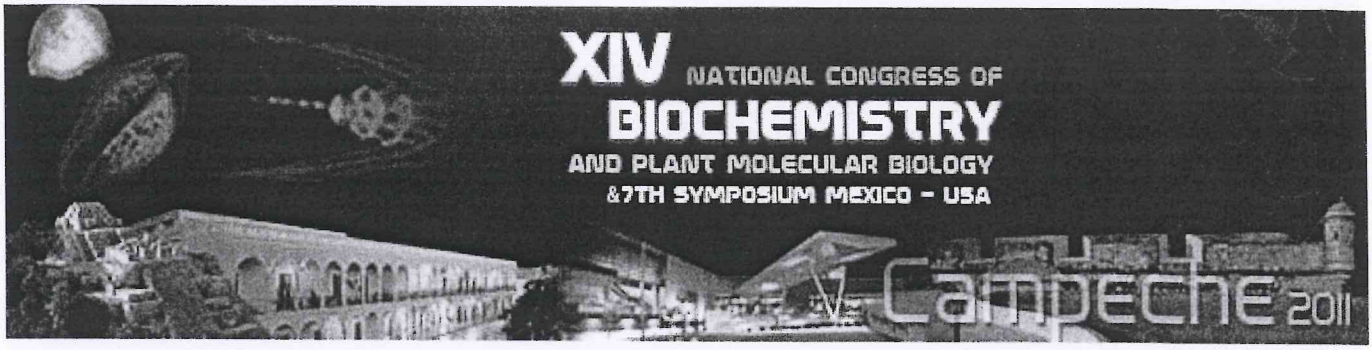


## Glucose affects photosynthesis and development in *Physcomitrella patens.*

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Sugars are important molecules in plants; they are produced by photosynthesis and play different roles in its life, so plants can sense different concentrations of sugars and respond to these stimuli[1]. In higher plants, sugars like glucose act as signals to regulate processes like seedling development, photosynthesis and response to stress[2]. To date, almost all research about sugar sensing has relied in higher plants, however in recent years, the moss *Physcomitrella patens* has become a model system for developmental and molecular biology studies[3] so this moss could provide important information about the evolution of plant sugar signaling pathways. With the aim of identifying the glucose effect in moss development and photosynthesis; in this study we evaluated *P. patens* protonemata responses to different glucose concentrations (100 – 1000 mM, and sorbitol as an osmotic control). We found that glucose affects negatively protonemata development and photosynthesis under high glucose conditions (700 and 1000 mM) showing growth arrest phenotypes and low photosynthetic levels. We conclude that *P. patens* can sense and respond to different glucose concentrations modulating its growth, development and photosynthesis.

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