

cDNA cloning of a putative glucan binding protein GP40 from the heliozoon *Actinophrys sol*

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The heliozoon *Actinophrys sol* is a predatory protozoan which has a number of axopodia radiating from the cell body. *A. sol* captures food organisms with its axopodia, and a 40-kDa glycoprotein (GP40) is considered to play an important role in prey recognition and adhesion. In the present study, the cDNA encoding GP40 was cloned and sequenced. The deduced amino acid sequence of GP40 showed significant homology to glucan binding proteins (GBPs), which are known to be involved in invertebrate immunity. Invertebrates can recognize pathogen-associated molecular patterns (PAMPs) using their GBPs. In addition, we examined the glucan-binding ability of GP40. These results suggest that GP40 interacts with prey organisms through its glucan-binding domain, and that an evolutionary relationship is likely to exist between prey recognition in protozoa and pathogen recognition in innate immunity.