

148. FUNCTIONAL ANALYSIS OF THE RanBPM-LIKE GENE FAMILY IN *GLOBODERA ROSTOCHIENSIS*

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The cyst nematodes induce specialised feeding site (syncytia) – a conglomerate of metabolically highly active, fused protoplasts – within the roots of a host plant. A reactivation of the cell cycle- more accurately DNA endoreduplication is an essential part of feeding cell formation. Secretions from the dorsal oesophageal glands are thought to be responsible for the induction and maintenance of these so-called syncytia. cDNA-AFLP was used to compare gene expression in infective and non-infective developmental stages of potato cyst nematode, which resulted in the identification of a multiple gene family sharing significant homology with RanBPM (Ran-binding protein in the microtubule organising centre) from various organisms. RanBPM is a multifunctional protein involved in cytoskeleton organization, signal transduction, activation of Ras pathway & role in apoptosis. *In situ* hybridization revealed the localization of these proteins in dorsal gland. The antisera raised against three family members (A41, A18, and E19) recognized a band of 25kD, 21kD & 20kD for A41, E19 and A18 respectively in infective second stage juvenile's (J2) homogenate. In addition A41 is also found in crude secretions. Based on the conserved nature of the Ran-BPM interacting proteins Ran-GTP and γ -TURC, it is hypothesised that Ran-BPM like proteins of nematode origin could change the dynamic instability of microtubules in plant cells and as a consequence affect nematode induced cell cycle reactivation.