PLANT CELL LOCALIZATION OF TnBVANK1, AN IKB-LIKE GENE FROM TOXONEURON NIGRICEPS BRACOVIRUS

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IkB, Ankyrin, Nicotiana tabacum, immunolocalization

Toxoneuron nigriceps Bracovirus TnBV is a polydnavirus associated with Toxoneuron nigriceps an endophagous parasitoid of larval stages of the tobacco budworm Heliothis virescens that injects the viral DNA into the host with the egg at the ovideposition. Viral genes play an important role in the suppression of the host immune reaction and in the development of a severe alteration in the hormonal balance of parasitized larvae. Viral genomes have been sequenced and evidenced the presence of a gene family characterized by the presence of two ankyrin repeats showing high similarity to the IkB-like proteins involved in NfkB signalling pathway (Falabella et al., 2007). These proteins play a key role in the negative regulation of immune system in mammals and insects. The conservation in planta of a IkB-NFkB like pathway and its possible involvement in plant response to pathogen attack, supported the expression of one of the gene of this family, TnBVank1 in tobacco in order to study its possible role in plant defence. Transgenic plants constitutively expressing TnBVank1 gene where fully characterized by RT-PCR and western blotting which confirmed the expression of the recombinant protein often complexed with other proteins through bounds possibly mediated by the ankyrin domains. Here we report on the cellular localization of the recombinant protein in transgenic tobacco protoplasts and discuss its implications with defence mechanisms.