

Putative CDK10 Gene and its Possible Role in the Endocycles of *Rhynchosciara americana* (Diptera:Sciaridae).

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The putative Cdc2-like/CDK10 gene was isolated in an EST screening performed in a cDNA library of salivary glands, built in the larval development moment where the last replication cycle begins concomitantly with the gene amplification phenomena. In this context chromosomal DNA has been replicated several times through a specialized cell cycle known as endocycle, which presents an oscillator of cyclinE/CDK2 complex in its regulation. The presence of the putative Cdc2-like/CDK10 in the EST screening compelled us to investigate its participation on the endocycles. We started to characterize the CDK10 putative gene in *Rhynchosciara americana*, and analyze its possible participation in the endocycles of the salivary glands. We sequenced 1067pb of the RaCDK10 gene mRNA and 1000pb of the genomic sequence, where there are possibly 174pb intronic DNA. A conceptual translation of its coding sequence shows 68% of amino acid identity and additional 10% conserved substitutions with CDK10 protein kinase from *Aedes aegypti*. So far the cloned RaCDK10 represents 2/3 of the whole protein when compared to other insect's homologues. Main catalytic domains and serine/threonine kinase site signature are present, characteristic of a CDK protein. Interestingly real time RT-PCR experiments suggests that RaCDK10 presents an oscillating level expression profile at the salivary glands during development, similar to the one observed in other proteins involved in the cell cycle regulation, while its expression is almost steady in the ovaries of *Rhynchosciara americana*. RT-PCRs data also suggests the presence of isoforms in different tissues. RaCDK10 could represent the first endocycle control element found in sciaridae.