

Fate of the 63-kDa periplasmic protein of an infectious form of the endonuclear symbiotic bacterium *Holospora obtusa* during the infection process

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SUMMARY

An infectious form of *Holospora obtusa*, a macronucleus-specific endosymbiotic bacterium of the ciliate *Paramecium caudatum*, was found to secrete a 63-kDa periplasmic protein into its host macronucleus. Soon after the macronuclear infection, the protein appeared in the infected macronucleus and increased remarkably within one day after infection. Using host and bacterial protein synthesis inhibitors, we illustrate that both the pre-existing and newly synthesized 63-kDa proteins were secreted into the host's macronucleus early in the infection. The gene encoding the 63-kDa protein was cloned and sequenced. The deduced amino acid sequence shows that this protein is a novel protein.