

Inhibition of Vesicular Stomatitis Virus Replication by Prostaglandin A₁ in *Aedes albopictus* Cells

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Cyclopentenone prostaglandins (PGs) exhibit antiviral activity against RNA and DNA viruses in mammalian cell lines, and this effect has been associated with the induction of a heat shock protein (hsp70). We investigated the effect of prostaglandin A₁ (PGA₁) on the replication of vesicular stomatitis virus (VSV) in *Aedes albopictus* (mosquito) cells. PGA₁ was found to inhibit VSV replication dose dependently. Virus yield was reduced to 50% (3 µg PGA₁/ml) and to 95% with 8 µg PGA₁/ml. Even with the dramatic reduction of virus production observed in cells treated with PGA₁, VSV-specific protein synthesis was unaltered. Treatment of cells with PGA₁ (5 µg/ml) stimulated the synthesis of a polypeptide identified as a heat-shock protein (hsp) by immunoblot analysis. PGA₁ induced hsp70 synthesis in uninfected cells. However, in VSV-infected cells the induction of hsp70 by PGA₁ was reduced. This is the first report of antiviral effects of PGs affecting the replication of VSV in a mosquito cell line.

Key words: Prostaglandin, *Aedes albopictus* Cells, Vesicular Stomatitis Virus