G302 Mechanism of Cyclosporin A-mediated Regulation of Transcription Factor NFAT

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Immunosuppressive drug cyclosporin A inhibits the activity of nuclear factor of activated T cells (NFAT) that plays a pivotal role in transcriptional induction of several cytokine genes. The inhibitory effect of the drug is largely mediated by inactivating the phosphatase activity of calcineurin that is essential for dephosphorylation of cytoplasmic NFAT proteins and for their subsequent translocation to the nucleus. Here we report that cyclosporin A is also able to inhibit the DNA-binding activity of NFAT that is already translocated to the nucleus. The loss of DNA-binding activity of nuclear NFAT by the treatment with cyclosporin A redults from phosphorylation of NFAT proteins as *in vitro* dephosphorylation by the treatment with calcineurin not only increases its migration but restores its DNA-binding activity. These data suggest an additional mechanism for cyclosporin A-sensitive regulation of NFAT in which both cytoplasmic and nuclear NFAT proteins can be molecular targets for the immunosuppressive drug.

G303 Purification and Characterization of a Hemolysin Produced by *Vibrio anguillarum* V-7(Serotype J01)

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Vibrio anguillarum causes vibriosis in both marine and freshwater fish. In vibriosis, hemolysin has been suggested to be an important virulence factor. An extracellular hemolysin produced by *Vibrio anguillarum* was purified by ammonium sulfate precipitation, anion-exchange column with DEAE-Sephacel, hydroxylapatite column, gel filtration with Superdex 75, and anion-exchange with Mono-Q. The purified hemolysin had a molecular weight of 51,000(estimated by sodium dodecyl sulfate-polyacrylamide gel electrophoresis). Lysis of human erythrocyte by the hemolysin is a multi-hit, at least two-step process consisting of a temperature-independent, hemolysin-binding step, followed by a temperature-dependent, cell-lysis step.