symptom and bacterial pathogen free. TNF was found to be increased in *Shigella* infected (mean 278,0 pg/ml) as compared to the not-infected, not-ill individuals (35.4 pg/ml, $p < 0.05$). Associations were not found between TNF level in stool and the number of leukocytes in the sample or the presence of gross or occult blood. The discordance between results of TNF, leukocyte, and blood determinations shows that TNF is measuring an independent component of pathogenesis and may be useful in diagnosis and monitoring treatment.

117 GROUP III DENSOVIRUSES (DNV'S) ARE WIDESPREAD IN INSECT DISEASE VECTORS AND POTENTIALLY USEFUL AS GENE EXPRESSION VECTORS. O'Neill SL*, Kittayapong P, Braig HR, Gonzalez JP, and Tesh RB. Department of Epidemiology and Public Health, Yale University School of Medicine, New Haven, CT; Department of Biology, Faculty of Science, Mahidol University, Bangkok, Thailand; and Institut Franais de Recherche Scientifique pour le Developpement en Cooperation, Paris, France.

A PCR assay was developed to detect DNV genomes in insect cells and whole insect tissue. Application of this assay has revealed latent DNV infections in several mosquito cell lines and laboratory colonies. Phylogenetic analysis based on sequence data indicates that these isolates do not group with either group I or II DNV's but are more similar to other described mosquito DNV's. As such these viruses represent a new group of DNV's (Group III) which appear to be quite common in insects. Preliminary experiments indicate that some of these viruses are capable of infecting a number of different mosquito species both orally and parenterally and are transovarially transmitted. They appear to form largely avirulent infections. These viruses could prove useful as expression vectors in order to introduce genes conferring refractoriness to disease transmission into wild mosquito populations.

118 TRANSFECTION OF SALIVARY GLANDS FROM THE MOSQUITO, *AEDES AEGYPTI*. Morris AC* and James AA. Department of Molecular Biology and Biochemistry, University of California, Irvine, CA.

The control of vector species has long been a mainstay in the control of transmission of parasitic diseases. The development of molecular biological techniques has led to the proposal that genetically-altered vectors may play a role in future control strategies. An important technical accomplishment for testing this proposal is the ability to stably introduce genes into target vector species. Efforts to develop transformation systems are underway in several laboratories. In the absence of such a system, transient assys are being developed so that DNA constructs may be evaluated prior to their application in germline transformation strategies. Transient assays have been developed using the salivary glands of the mosquito *Aedes aegypti*. The glands have been successfully transfected using a liposome-mediated technique following treatment of the glands with elastase to remove the surrounding basement membrane. Expression of a luciferase reporter gene has been detected using a DNA construct carrying this gene under the control of the *Drosophila* heat shock 70 promoter (hsp70). We report the use of this system to analyze a salivary gland specific putative promoter sequence.

119 FEMALE-SPECIFIC ARYLESTERASE ISOLATED FROM *AEDES AEGYPTI* SALIVARY GLANDS. Argentine JA* and James AA. Department of Molecular Biology and Biochemistry, University of California, Irvine, CA.

Esterase activity was detected in *Aedes aegypti* female salivary homogenates using the substrate α-napthyl acetate. Activity in the female salivary glands was 0.05 nM/min/salivary gland or 49.8 μM/min/mg protein. Esterase activity in the male salivary gland was barely detectable and had a specific activity 10-fold less that of female salivary glands. α-napthyl butyrate was also hydrolyzed by

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