

## ABSTRACT

### REGULATION OF HEMAGGLUTININ/PROTEASE (HAP) IN CLASSICAL AND EL TOR BIOTYPE *VIBRIO CHOLERAE* STRAINS

Cholera continues to be a major health problem in developing countries today. *Vibrio cholerae* make several virulence factors in response to the conditions found within the host. One such virulence factor is Hemagglutinin/protease (Hap). We studied environmental signals present within the human host that may regulate Hap expression, specifically temperature, presence of sugar, and bile. It was found that expression of Hap is repressed by glucose and other sugars by inducing vibrios to resume exponential growth in culture. We also showed that bile and high temperature have stimulatory effects on Hap expression. We were able to determine that Hap production is governed by multiple environmental stimuli.

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