Overview of Aerosolized Florida Red Tide Toxins: Exposures and Effects

Lora E. Fleming, 1 Lorraine C. Backer, 2 and Daniel G. Baden 3

¹National Institute of Environmental Health Sciences Marine and Freshwater Biomedical Sciences Center and National Science Foundation-National Institute of Environmental Health Sciences Oceans and Human Health Center, University of Miami Rosenstiel School of Marine and Atmospheric Sciences, Miami, Florida, USA; ²National Center for Environmental Health, Centers for Disease Control and Prevention, Atlanta, Georgia, USA; ³Center for Marine Science, University of North Carolina at Wilmington, Wilmington, North Carolina, USA

Abstract

Florida red tide is caused by *Karenia brevis*, a dinoflagellate that periodically blooms, releasing its potent neurotoxin, brevetoxin, into the surrounding waters and air along the coast of the Gulf of Mexico. Exposure to Florida red tide toxins has been associated with adverse human health effects and massive fish and marine mammal deaths. The articles in this mini-monograph describe the ongoing interdisciplinary and interagency research program that characterizes the exposures and health effects of aerosolized Florida red tide toxins (brevetoxins). The interdisciplinary research program uses animal models and laboratory studies to develop hypotheses and apply these findings to *in situ* human exposures. Our ultimate goal is to develop appropriate prevention measures and medical interventions to mitigate or prevent adverse health effects from exposure to complex mixtures of aerosolized red tide toxins. *Environ Health Perspect* 113:618-620 (2005).