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Development of a Mouse Model of Dietary Aflatoxin-Induced Stunting

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Mycotoxins are toxic metabolites produced by fungi. Aflatoxin is one type of mycotoxin. Animal exposure to aflatoxins, through ingestion of contaminated food, is known to cause liver injury in livestock, and human exposure to these toxins is an important risk factor for the development of liver cancer. These exposures are common in Sub-Saharan Africa and Asia, but some North American exposure also occurs. Although aflatoxin-induced hepatotoxicity is well recognized, the systemic metabolic and hepatic regenerative responses to acute and chronic toxin exposure have not been well characterized. In this study, we developed a mouse model of AfB1-induced stunting and investigated the relationships between such stunting and liver and gut injury. The metabolic and regenerative responses that occur in mice subjected to dietary aflatoxin B1 were characterized using tools well-established in the Rudnick lab for analyses of regeneration.