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PROJECT 1 ABSTRACT

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Our long term goal is to **develop approaches to optimize protection from DON in humans** by altering the metabolism of this compound. In order to determine the potential of a possible route of metabolism to detoxify DON in humans, we aim to identify the metabolic fate of DON glucoside in human-relevant models.

We hypothesize that DON-glucoside will be readily converted to DON and that a similar pattern of DON metabolites will be found with this form of DON as with DON itself, thus verifying the lack of detoxification of DON from the formation of DON-glucoside in grains. By feeding DON-glucoside to mice, we propose to determine the metabolic fate of this compound by HPLC analysis. By incubating DON-glucoside with human feces and with mouse cecal contents and measuring DON contents by HPLC, we will be able to predict the extent to which this form of DON is likely to be converted to DON in humans and we will determine the usefulness of mouse models in simulating human gut microbial metabolism of this form of DON.

This aim will clarify whether or not DON-glucoside represents a form of DON less toxic to humans.