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In vitro evaluation of structural analogs of diallyl sulfide as novel CYP2E1 inhibitors for their protective effect against xenobiotic-induced toxicity and HIV replication

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Abstract

Diallyl sulfide (DAS) has been shown to prevent xenobiotic (e.g. ethanol, acetaminophen) induced toxicity and disease (e.g. HIV-1) pathogenesis. DAS imparts its beneficial effect by inhibiting CYP2E1-mediated metabolism of xenobiotics, especially at high concentration. However, DAS also causes toxicity at relatively high dosages and with long exposure times. Therefore, the goal of the current study was to investigate the structural analogs of DAS for their improved toxicity profiles and their effectiveness in reducing xenobiotic-induced toxicity and HIV-1 replication. Previously, we identified commercially available analogs