

Aloe Vera Juice Not Likely to Significantly Affect Drug Metabolism (Phytotherapy Research)

Editor's Note: This study evaluated the ability of two aloe vera juice products to inhibit the two major drug-metabolizing enzymes and concluded that the inhibitory values were too low to cause any major interference in drug metabolism. Grapefruit juice is known to be a significant inhibitor of these enzymes and can lead to elevated levels of drugs in the body that would have been otherwise metabolized. The researchers suggested the possibility of a clinically significant effect from aloe vera juice because of their finding of more than one mechanism of drug-enzyme inhibition. However, human trials would be needed to determine if such an effect exists and to what extent.

Phytotherapy Research
[epub ahead of print] Aug 15, 2011

[Aloe Vera Juice: IC50 and Dual Mechanistic Inhibition of CYP3A4 and CYP2D6](#)

The aim of this study was to evaluate the inhibitory potency (IC values) of ethanol extracts of two commercially available aloe vera juice (AVJ) products, on CYP3A4 and CYP2D6 activities in vitro and to determine if such inhibitions could be mechanism-based. Recombinant human CYP3A4 and CYP2D6 enzymes were used and the activities were expressed by the metabolism of testosterone and dextromethorphan with ketoconazole and quinidine as positive inhibitor controls, respectively. The formed metabolites were quantified by validated HPLC techniques. Time- and NADPH-dependent inhibition assays were performed to evaluate a possible mechanism-based inhibition. One of the AVJ extracts showed about twice the inhibitory potency towards both CYP enzymes over the other with IC values of 8.35 and 12.5 mg/mL for CYP3A4 and CYP2D6, respectively. The AVJ was found to exert both CYP mediated and non-CYP mediated inhibition of both CYP3A4 and CYP2D6. This dual mechanistic inhibition, however, seems to be governed by different mechanisms for CYP3A4 and CYP2D6. Estimated IC inhibition values indicate no major interference of AVJ with drug metabolism in man, but the dual mechanistic inhibition of both enzymes might be of clinical significance.

[\[READ MORE...\]](#)

The link above is provided as a convenience, however, web pages are often updated by their host sites and this link may not remain active. AHPA gathers information from many organizations. Some sites require you to register in order to read articles.