

- Kava may exacerbate hepatitis in patients with a history of recurrent hepatitis.¹⁸ Avoid use in hepatic impairment and concurrent use with other hepatotoxic drugs.
- There is concern that concomitant use of kava and alcohol may further increase the risk of hepatotoxicity.¹⁸ High doses of kava may also potentiate the effect of alcohol on subjective measures of cognition, sedation, intoxication and willingness to drive, as well as measurable activities of attention, concentration and accuracy. Individuals taking kava should avoid alcohol if driving or carrying out other tasks requiring concentration and attention.¹³⁷

Interactions

Anxiolytics (e.g. benzodiazepines): It is thought kava may potentiate central nervous system depression via a direct effect on GABA receptors. There has been a case report of the possible interaction between alprazolam and kava resulting in coma.¹³⁸ Avoid combination, monitor for signs of excessive CNS depression.

Cytochrome P450 substrates: Preliminary evidence suggests kava significantly inhibits cytochrome P450 CYP1A2, CYP2C19, CYP2C9, CYP2D6 and CYP2E1. There are contradictory results for the influence on CYP3A4 and CYP2D6.^{16,18} The strength of the effect varies between products, with commercial products showing greater inhibition than traditional preparations.²⁰ Until more is known, patients taking drugs metabolised by P450 enzymes should be monitored for drug efficacy and adverse effects. See [Table D.1](#), Section D.

Levodopa: Kava may reduce effectiveness via dopamine receptor antagonism.¹³⁹ Avoid combination as it may exacerbate Parkinson's disease or increase risk of dyskinesia.

P-glycoprotein substrates (e.g. ketoconazole, cimetidine, diltiazem, verapamil, corticosteroids, erythromycin): Theoretically, kava may inhibit the P-glycoprotein mediated drug efflux and potentially increase levels of drugs that are P-glycoprotein substrates. Until more is known, kava should be used cautiously in people taking P-glycoprotein substrates.

Common dosage ranges

Kava exists in numerous varieties and varying potencies, and only preparations standardised to kavalactone content should be used for therapeutic purposes, which generally should not exceed three months.

In August 2003, in response to concerns about hepatotoxicity, the Therapeutic Goods Administration limited the maximum amount of *Piper methysticum* permitted per dosage form in Australia. A single tablet or capsule may contain a maximum of 125 mg of the

active constituent kavalactones. Each tea bag is limited to 3 g of dried rhizome. All kava products, in any dosage form, must comply with a maximum daily dose of not more than 250 mg of kavalactones.¹³⁶ Kava is classified as a prohibited import under the Customs (Prohibited Imports) Regulations.

Tablets/capsules: standardised extract (70% kavalactone) 100 mg (70 mg kava-lactones) three times daily has been used in trials for anxiety disorders.¹⁸

kelp/kelpware/bladderwrack

Fucus vesiculosus

Laminaria, *Fucus*, *Macrocystis* and *Ascophyllum* species are referred to as brown seaweeds. The generic term 'kelps' technically refers to species of *Laminaria* and *Macrocystis*, although it is often also used in reference to *Fucus* species.

Common uses

Kelp (*Fucus vesiculosus*) has been used to treat underactive thyroid, hypertension and hyperglycaemia and as an anticoagulant and antirheumatic agent. The available evidence is not compelling for any of the reported uses.

Notes

- Contains up to 600 micrograms iodine per gram and use may induce or exacerbate hyperthyroidism.¹⁶ Use with caution in patients with thyroid disorders.
- High doses of kelp have been shown to reduce T₃ levels, elevate TSH levels and increase TRH response after four weeks.¹⁴⁰
- Avoid in renal impairment or heart failure due to the potentially high sodium content and heavy metal contamination.¹⁶
- Preliminary research suggests bladderwrack may impair fertility.¹⁴¹ Avoid use in women trying to conceive.
- There have been case reports of abnormal erythropoiesis, acneiform eruptions, autoimmune thrombocytopenia and bleeding.^{142,143}
- Not to be confused with bladderwort.
- Cease 7 days prior to surgery.

Pregnancy and breastfeeding

Avoid use due to the high iodine content and potential effect on the thyroid and possible contamination with toxic heavy metals.^{9,16,18}

Interactions

Anticoagulants (e.g. warfarin), antiplatelet drugs (e.g. aspirin, clopidogrel) and NSAIDs

(e.g. ibuprofen): An increased risk of bruising and bleeding may occur due to heparin-like activity of its fucoidan component.^{16,18}