Effect on CYPs and prostaglandin activity

In this guide

Author	Test System	Exposure	Characterisation of test substance	Main outcome measure	Outcome
Dugasani *et al.*, 2010	Mouse leukaemic monocyte (RAW 264.7) macrophages and human polymorphonuclear neutrophils (PMN).	1, 3 and 6 uM.	[6]-gingerol, [8]-gingerol, [10]-gingerol and [6]-shogaol.	compare the antioxidant and antiinflammatory activities of gingerols and their natural analogues to determine their structure–activity relationship and molecular mechanisms.	Dose dependant inhibition activated PGE2 relea Inhibition reached 5 66, 73 and 87%, respective at 6uM.

Jolad *et al.*, 2004	HL-60 cells.	Not specified.	ginger constituents: gingerols, shogaols, 3-dihydroshogaols, gingerdiols.	Effects of ginger components on LPS-induced PGE2 production.	No cytotoxicit demonstra
Jolad *et al.*, 2005	HL-60 cells.	Not specified.	Ginger constituents containing gingerols, shogaols, 3-dihydroshogaols, gingerdiols.	Effects of ginger components on LPS-induced PGE2 production.	Inhibition LPS-stimulated PGE2 productio (IC50 = 0. 0.08 ug/m with Ginge fractions.
Kim *et al.*, 2012	Human liver microsomes.	0.05–5 ug/ml.	Aqueous ethanolic ginger extract (30% EtOH).	Inhibitory effect on CYP450-mediated drug metabolism.	Concentra dependen inhibitory effects on CYP2C19; IC50 value 3.8 g/ml.
Kimura *et al.*, 2010;	Human CYP3A4 and CYP2C9 microsomes.	Not specified.	NA	Inhibitory effect on CYP3A4 and CYP2C9 activity.	significant inhibition CYP3A4 IC 5.1u g/ml CYP2C9 IC (10ug/ml) activity.

Lantz *et al.*, 2007	U937 cells	0.1 ug/ml for 6 hrs.	Ginger extract and mixtures of 6-, 8- 10-gingerols and 6-, 8-, 10-shogaols.	Effect on inflammatory mediator production.	No effect o COX-2 expressior
Mukkavilli *et al.*, 2014	Human liver microsomes.	Ginger extract: 500 mg/ml (containing 15 mg/ ml 6G, 3.4 mg/ml 8G, 3.9 mg/ml 10G, 3.0 mg/ml 6S); All individual components of gingerols assessed at 100 mg/mL (equivalent to 29 mg/ml 6G, 32 mg/ml 8G, 35 mg/ml 10G and 28 mg/ml of 6S).	Ginger extract: (containing 6-Gingerol, 8-Gingerol, 10-Gingerol, 6-Shogaol). All individual components of gingerols were assessed at 100 mg/mL equivalent to 29 mg/mL 6G, 32 mg/mL 8G, 35 mg/mL 10G and 28 mg/mL of 6S.	effect of ginger extract and major constituents on CYP P450 enzyme activity.	Inhibition CYP1A2 (IC - 221.5 mg by ginger extract. No effect on CYP2A6; maximum inhibition CYP2B6: IC - 22 mg/m IC50 - 122 mg/mL against CYP2C8 in the presence amodiaqui IC50 - 93.5 mg/mL against CYP2C9, in the presence diclofenac Inhibition CYP3A in t presence testostero no effect i the preser of midazol