

Example	ADME level	Mechanism
<b>(Tetracyclines or quinolones) + multivalent cations (calcium, magnesium, or aluminum)</b>	Absorption	Reduces absorption by the formation of complexes that cannot be absorbed
<b>Itraconazole + antacids</b>	Absorption	Increased pH minimizes the absorption of acidic drugs
<b>Cyclosporine + St. John's wort</b>	Absorption	St. John's wort increases the activity of P-glycoprotein* in the intestinal cells and decreases cyclosporine levels
<b>Phenytoin + valproic acid</b>	Distribution	Both drugs compete for binding sites on albumin
<b>Rifampin + oral contraceptive pills</b>	Metabolism	Rifampin induces Cyt P450, causing decreased estrogen levels
<b>Warfarin + grapefruit juice</b>	Metabolism	Grapefruit juice inhibits Cyt P450, causing increased warfarin levels, which may cause bleeding
<b>Penicillin + probenecid</b>	Elimination	Increased penicillin levels as probenecid competes with penicillin for transporters in the kidney