Metformin acts as a metabolic inhibitor and alters both whole-body and cellular energy metabolism. Hopefully, the knowledge gained from dissecting the pathways that metformin acts on will propel the development of multiple novel therapies. Laboratory evidence of the antimitotic action of metformin is promising, although results from epidemiological studies remain controversial. 80 The combination of tumour genetics, patient metabolic profile and the cellular microenvironment determine the antitumour effect of metformin treatment. This mechanism is probably the main mode through which metformin lowers hepatic glucose output. Review criteria