

One out of every 15 white or black persons may have an exaggerated response to standard doses of beta blockers (e.g., metoprolol [Lopressor]), or no response to the analgesic tramadol (Ultram). This is because drug metabolism via CYP450 enzymes exhibits genetic variability (polymorphism) that influences a patient's response to a particular drug.<sup>3</sup> A specific gene encodes each CYP450 enzyme. Alleles are referred to as "wild type" or "variant," with wild type occurring most commonly in the general population. An "extensive" (i.e., normal) metabolizer has received two copies of wild-type alleles. Polymorphism occurs when a variant allele replaces one or both wild-type alleles. Every person inherits one genetic allele from each parent