Software for the clinical implementation of pharmacogenomic testing

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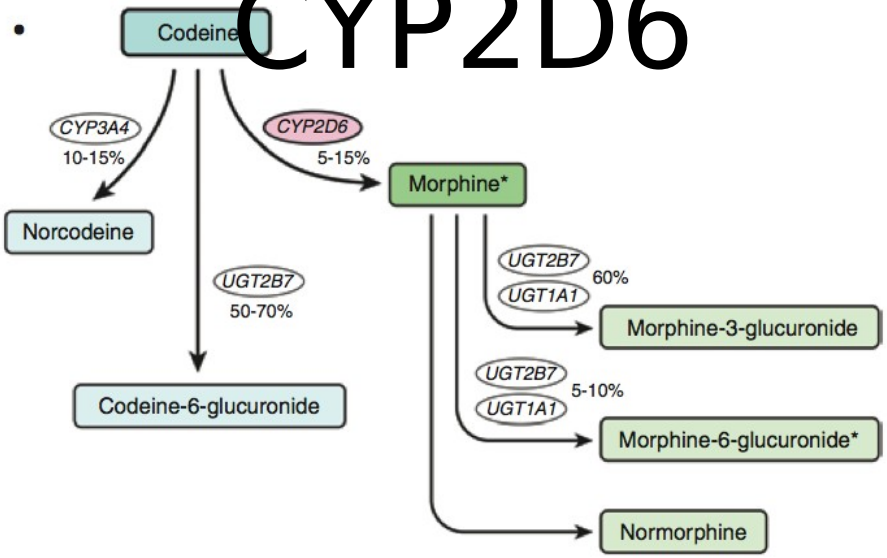
Pharmacogenomics

“The study of how genetics influence patient response to pharmacotherapies.”

“The study of how genetic factors influence interindividual variability of drug response.”

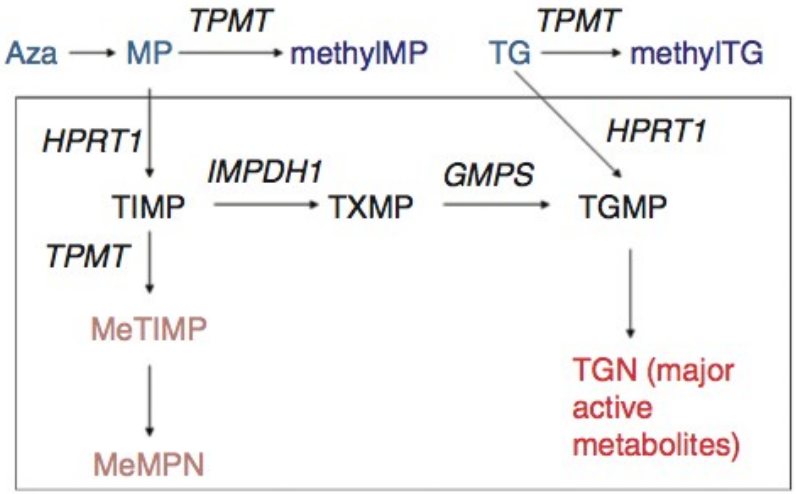
Example: codeine and CYP2D6



Ultrarapid metabolizer	Increased formationof morphine following codeine administration, leading to **higher risk of toxicity**
Extensive metabolizer	Normal morphine formation
Intermediate metabolizer	Reduced morphine formation
Poor metabolizer	Greatly reduced morphine formation following codeine administration, leading to **insufficient pain relief**

CPIC Guidelines, Crews et al, 2014

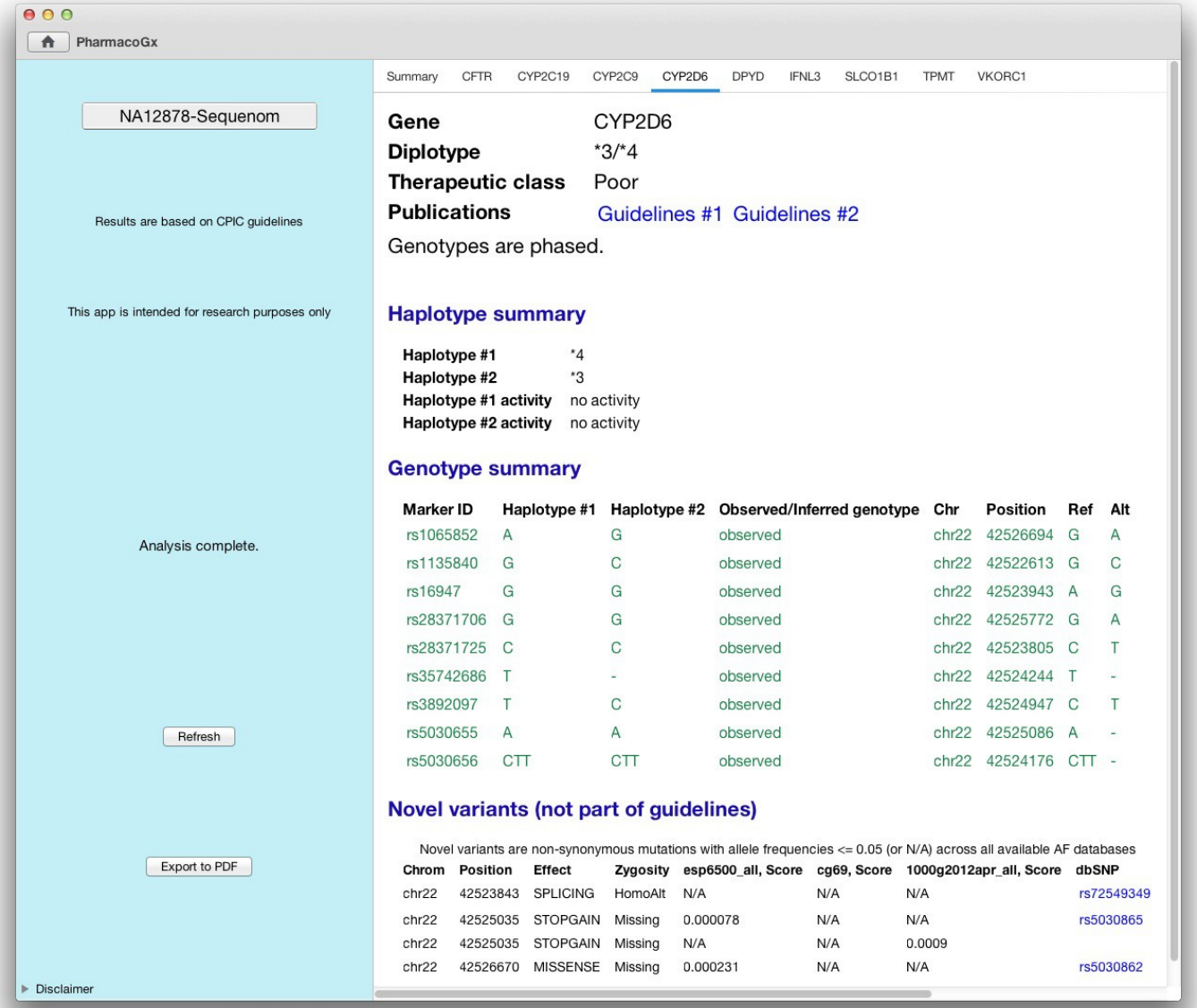
Example: mercaptopurine



Extensive metabolizer	Lower concentrations of TGN metabolites, higher methylTIMP, this is the "normal" pattern
Intermediate metabolizer	Moderate to high concentrations of TGN metabolites; low concentrations of methylTIMP
Poor metabolizer	Extremely high concentrations of TGN metabolites; **fatal toxicity possible** without dose decrease; no methylTIMP metabolites

CPIC Guidelines, Relling et al, 2011

PGx app for MedSavant



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