



## **Cytochrome P450 (CYP450) Induction**

Cytochromes P450 are a family of enzymes which play a major role in the metabolism of drugs. Induction of Cytochrome P450 family by a compound it may both increase metabolism of P450 itself (a phenomenon known as autoinduction), or reduction in plasma levels resulting in a decrease in efficacy. Additionally, induction of cytochrome P450 enzymes can also lead to toxicity due to an increase in reactive metabolite formation.

Thus, prior knowledge of potential interactions with co-administered therapy is needed to guide development of a drug and to identify possible co-medication restrictions.

BioDuro provides comprehensive Cytochrome P450 induction assay which facilitating investigation the potential of test compounds to induce CYP1A2, CYP2B6 or CYP3A4 in cultured human hepatocytes by evaluating mRNA levels and/or catalytic activity. All assays are designed to meet FDA and EMA guidelines.

### ***Salient Characteristics of our assay include***

- a. Cryopreserved human hepatocytes (3 donors recommended)
- b. CYP1A2 induction which involves the Aryl hydrocarbon receptor (AhR)
- c. Induction of CYP2B6 is mediated by the constitutive androstane receptor (CAR)
- d. Induction of CYP2C isoforms and CYP3A4 via the pregnane X receptor (PXR).
- e. Assay includes detailed reports of methodology, donor demographics, mRNA levels, fold induction relative to vehicle control.