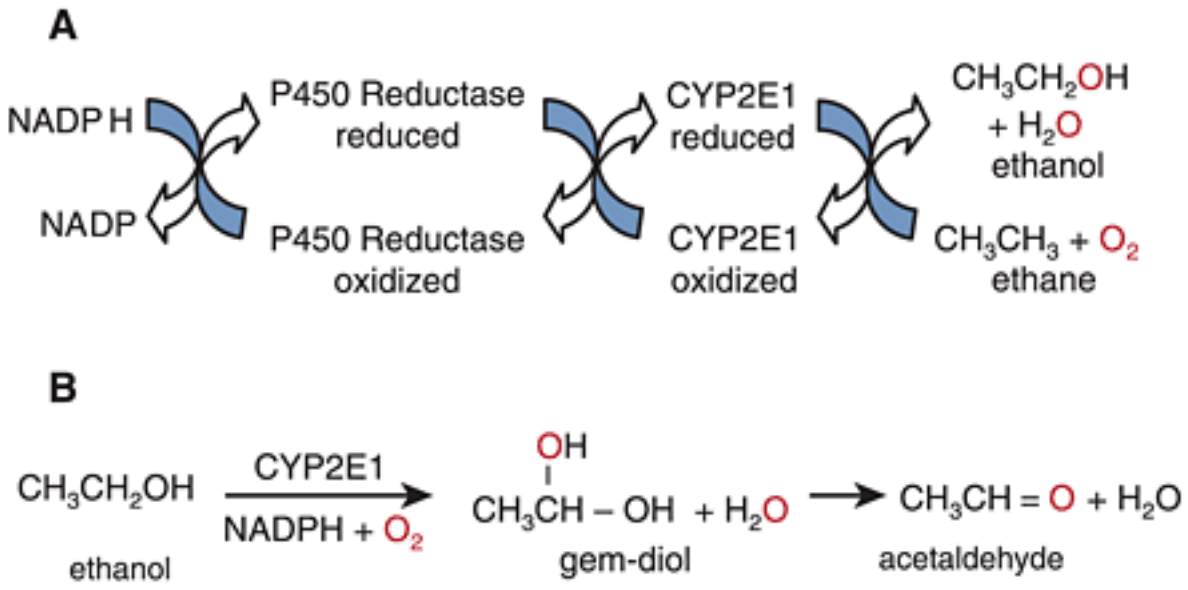
Metabolism of ethane to produce alcohol and water



Electrons are transferred from NADPH to cytochrome P450 2E1 (CYP2E1) by cytochrome P450 reductase. **A)** The CYP2E1 then catalyzes the oxidation of the substrate molecule (ethane) by adding one atom of oxygen to the substrate, producing ethanol; the other atom is reduced to water. **B)** The CYP2E1- catalyzed metabolism of alcohol produces an unstable intermediate (i.e., a gem-diol) that will decompose to produce acetaldehyde.

Prepared: December 2008