

Hydrolysis

Hydrolysis reactions can occur in many locations throughout the body, including the plasma. Examples of some nonmicrosomal hydrolases include esterases, peptidases, and amidases (Raffa 2010).

1.1.4.2 Phase II metabolism

Phase II metabolism represents the synthetic reactions occurring after phase I metabolism and is characterized by conjugation with endogenous substances. This conjugation results in a decrease in biological activity due to three dimensional shape alterations. Furthermore, conjugation results in an increase in water solubility of the substance, which decreases the amount that is reabsorbed through renal tubules and thereby enhances the fraction that is excreted in the urine. Groups of phase II isozymes consist of acetyltransferases, sulfotransferases (SULTs) for sulfation, methyltransferases for methylation, glutathione S-transferase (GST) for glutathione conjugation, and UDP-glucuronosyltransferases (UGTs) for glucuronidation (Kashuba and Bertino Jr 2001; Leucuta and Vlase 2006; Raffa 2010). **(Figure 1.2)** represents phase I and II enzymes.