

Abstract

Human ABC (ATP-binding cassette) family of active transporters contains about 50 functionally diverse transmembrane proteins. They utilize energy from the hydrolysis of ATP and transport a variety of endogenous and exogenous compounds across the membranes against a concentration gradient. ABC transporters play important role in absorption, distribution and excretion of drugs. Some are able to confer multidrug resistance in cancer cells. Nowadays, to observe expression of ABC transporters on transcription level, it is possible to use several methods as Northern blotting, RNase protection assay, real-time RTPCR and microarray analysis. This thesis summarizes up to date information about quantification of ABC drug transporters. It was found that ABC transporters are expressed in the liver, kidney, gastrointestinal tract, blood-brain barrier, placenta and other tissues.