



Drug Screening in Experimental and Clinical Studies Targeting the Blood Brain Barrier

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Message from the Guest Editor

Blood brain barrier (BBB) is a key regulator for the access of any drug to the brain parenchyma. Various drugs may either directly affect the transport through these systems, or indirectly regulate their gene/protein expression, thus contributing to their up/downregulation and internalization mechanisms, that finally affects the expected drug transport across the BBB. For this reason, accurate information regarding the interaction with drugs or their permeability through the BBB is necessary, making *drug screening* and *drug safety* assays mandatory for any commercial or newly synthesized drug. Moreover, the mechanisms behind BBB alterations in various pathologies must be understood to ensure the optimal *drug delivery*. To this purpose, experimental *in silico*, *in vitro*, and *in vivo* studies have brought essential information for drug development. Additionally, several strategies have been developed to increase the efficiency of drug delivery to brain parenchyma, especially in clinical situations (i.e. neuro-oncology, pharmacoresistance), where BBB transport mechanisms are altered due to the pathological condition.





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