

ProtoADME

ProtoADME is a computational (*in silico*) tool focused on the prediction of endpoints related with the ADME (Absorption, Distribution, Metabolism and Excretion) of chemical substances.

Endpoint

Toxicokinetic: BSEP inhibitor.

The bile salt export pump (BSEP) actively transports conjugated monovalent bile acids from the hepatocytes into the bile. This facilitates the formation of micelles and promotes digestion and absorption of dietary fat. Inhibition of BSEP leads to decreased bile flow and accumulation of cytotoxic bile salts in the liver.

Metrics

Training set

Experimental values	QSAR predictions	
	Non-inhibitor	Inhibitor
Non-inhibitor	488	47
Inhibitor	19	87

Parameters	Training	Validation
Accuracy	0.90	0.87
Sensitivity / recall	0.82	0.76
Specificity	0.91	0.89
Precision	0.65	0.57
Negative predictive value	0.96	0.95
F-score	0.72	0.65
Matthews Correlation Coefficient	0.67	0.58
Critical Success Index	0.57	0.49
Area under the ROC	0.87	0.82

Validation set

Experimental values	QSAR predictions	
	Non-inhibitor	Inhibitor
Non-inhibitor	206	26
Inhibitor	11	35

ProtoADME is part of



ProtoPRED platform allows the easy, fast and user-friendly prediction of different properties of chemical compounds, using proprietary (Q)SAR models.



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