

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: OATP1B1 inhibitor.

OATP1B1 is an uptake transporter exclusively expressed on the sinusoidal side of hepatocytes. It is responsible for the hepatic uptake of drugs and endogenous compounds from the blood. Inhibition of OATPs may be responsible for enhanced plasma concentration of OATP substrates and may influence drug efficacy and toxicity.

Metrics

Training set

Experimental values	QSAR predictions	
	Non-inhibitor	Inhibitor
Non-inhibitor	223	40
Inhibitor	30	151

Parameters	Training	Validation
Accuracy	0.84	0.73
Sensitivity / recall	0.83	0.66
Specificity	0.85	0.78
Precision	0.79	0.68
Negative predictive value	0.88	0.77
F-score	0.81	0.67
Matthews Correlation Coefficient	0.68	0.44
Critical Success Index	0.68	0.50
Area under the ROC	0.84	0.72

Validation set

Experimental values	QSAR predictions	
	Non-inhibitor	Inhibitor
Non-inhibitor	69	19
Inhibitor	21	40

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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