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Title (English) Nonlinear gene activity–drug sensitivity relationship modelling for improved detection of genes that affect drug sensitivity		
Abstract <p>A novel approach for detection of genes whose products affect drug sensitivity was introduced. Two detectors, one based on nonlinear regression and the other on errors in variable modelling, have been tested on simulated data and was, using receiver operating characteristics graphs, compared to a linear state-of-the-art detection strategy, which is based on Pearson's correlation coefficient. On small and nonlinear datasets our modelling detector performed significantly better than the correlation coefficient detector. For example, a dataset size of five points gave under certain circumstances a rate of true positives of the modelling detector that was four times that of the correlation coefficient detector, both at 5% false positives. Our regression detector outperformed the correlation coefficient detector only on very small datasets.</p>		
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