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Targeting tumor cells based on *phosphodiesterase 3A (PDE3A)* expression

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We and others have previously reported on a correlation between high *phosphodiesterase 3A (PDE3A)* expression and selective sensitivity to *phosphodiesterase* inhibitors. This indicates that *PDE3A* could serve both as drug target and biomarker of sensitivity to *PDE3A* inhibition. In our project, we explored publicly available gene expression data to identify cell lines, of various origins, with high *PDE3A* expression. The identified cell lines showed marked *in vitro* sensitivity to *phosphodiesterase* inhibitors (i.e. zardaverine and quazinone) when compared with cell lines with low *PDE3A* expression. Immunofluorescence and immunohistochemical staining were in agreement with *PDE3A* mRNA expression, providing suitable alternatives for biomarker analysis of clinical tissue specimens. Moreover, we have demonstrated that primary cells from patients with ovarian carcinoma show great variability in *PDE3A* protein expression and that level of *PDE3A* expression seems to be correlated with sensitivity to *PDE3A* inhibition. Finally, we have demonstrated that a number of various solid tumor samples stain positively for *PDE3A* protein, rendering *PDE3A* expression a promising drug target and biomarker of *PDE3A* inhibition sensitivity.

Biography

Madiha Nazir is currently doing her PhD in Cancer Pharmacology and Computational Medicine from Uppsala University, Sweden. Her thesis work mainly focuses on drug repositioning for cancer treatment.

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