Turun yliopisto
University of Turku

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Diagnostics and treatment of aggressive cancer based on PME-1 expression and siRNA-based silencing

Background:
PME-1 (protein phosphatase methylesterase-1) has recently been identified as a potentially significant tumor promoter which acts by inhibiting the major tumor suppressor, protein phosphatase 2A (PP2A). PME-1 inactivates PP2A by de-methylating its catalytic subunit PP2Ac and also by binding it directly.

PME-1 has now been identified as a promising therapeutic target in many aggressive human malignancies, including glioblastoma and endometrial adenocarcinoma.

Description:
The current group of inventions provide means for

- diagnosing and stratification of patients based on PME-1 expression
- siRNA-mediated therapy for silencing PME-1

with the following major findings:

- Silencing PME-1 gene sensitizes cancer cells for apoptosis induced by chemotherapeutic agents
- PME-1 expression level can be used to differentiate patients who are likely to benefit from chemotherapy
- There is significant potential for treating human glioblastoma multiforme (GBM), the most common and most aggressive malignant primary brain tumor
- Proven or expected applicability in other cancers with invasive phenotypes

Application Areas:
Combination therapy for cancer, sensitization method, personalized medicine, stratification, drug development.

The IP is available for licensing from the TTO of the University of Turku (UTU).

ID: UTU309

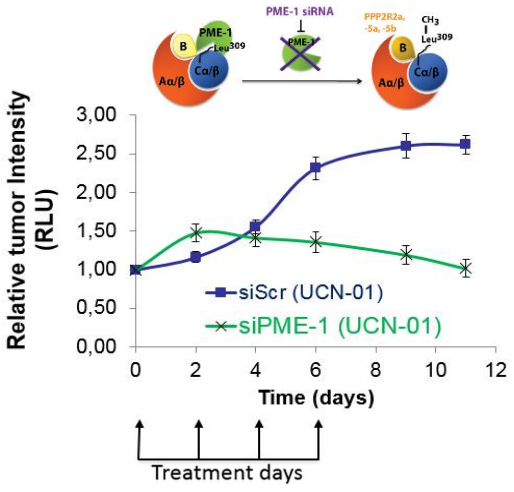
Title: METHOD OF SELECTING INDIVIDUALIZED BRAIN CANCER THERAPY

PCT Publication: WO2014033367 (A1)
National Phase: US, EP, JP, CN, CA

Title: COMBINATION THERAPY

PCT Publication: WO2012175798 (A2)
National Phase: US, EP, JP, CN, CA

Status: Technology Readiness Level (TRL) 3-4
Significant evidence for the treatment of glioblastoma in a xenograft mouse model, where PME-1 siRNA combination therapy strongly inhibited tumor growth.



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