

MÁRK VIKTOR TRESZTIÁN



National Academy of Scientist Education, 1st year

University of Szeged

Faculty of Science and Informatics, Biology, 1st year

YEAR OF BIRTH:

2003

FORMER SZENT-GYÖRGYI PUPIL:

no

SZENT-GYÖRGYI MENTOR:

Tamás Martinek

JUNIOR MENTOR:

Zsófia Hegedüs

SPECIALIZATION:

pharmaceutical chemistry

SECONDARY SCHOOL:

ELTE Bolyai János Practice
Primary and Secondary
Grammar School

NAME OF TEACHER:

József Baranyai,
Bence Farkas Szabó

LANGUAGES:

English/intermediate

IMPORTANCE, AIMS AND POSSIBLE OUTCOME OF RESEARCH

Our goal is to develop methods for the synthesis and screening of non-natural multivalent ligands, targeting protein-protein interactions that play a key role in cancer, such as the P300/HIF-1 α interaction. This interaction regulates the hypoxic response and its inhibition leads to decreased cancer cell angiogenesis and metastasis. We designed a method where the non-natural ligands are encoded by a DNA tag and multivalent ligands can be constructed in presence of a DNA template. The DNA template allows amplification and identification of the ligands, furthermore it can be re-used in a subsequent synthesis and selection, leading to an in vitro evolution cycle. The method can be applied to other protein targets, and the identified ligand would be therapeutically relevant in cancer.

AMBITIONS AND CAREER GOALS

My goal as a Szent-Györgyi Student is to deepen my understanding of methods to manipulate therapeutically significant protein targets. To learn and help the development of techniques, which could later be used in pharmaceutical research, techniques that are necessary for the synthesis of target proteins and ligands, their characterisation and to perform biophysical examinations.

HONORS AND PRIZES

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PUBLICATIONS

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