

## MÁRK VIKTOR TRESZTIÁN



National Academy of Scientist Education, 3<sup>rd</sup> year

University of Szeged  
Faculty of Science and Informatics, Biology, 3<sup>rd</sup> year

#### YEAR OF BIRTH

2003

#### FORMER SZENT-GYÖRGYI PUPIL

no

#### RESEARCH UNIT

University of Szeged

#### 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-1alpha 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

2021/22 Biology OKTV II. category 3. place

#### PUBLICATIONS

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