



Technology Opportunity, Ref. No. UZ-10/651

PARP Blockers for the treatment of Helicobacter pylori induced gastric cancer

It could be shown that in mouse models of Helicobacter-infection induced gastric cancer the application of PARP blockers leads to a regression of pre-existing lesions.

Background Helicobacter pylori, a Gram-negative, microaerophilic bacterium causes a chronic low-level inflammation of the stomach lining and is strongly linked to the development of duodenal and gastric ulcers and stomach cancer.

Invention This invention is based on the following findings in three different pre-clinical models:

(1) oral administration of a PARP inhibitor (dissolved in the drinking water) efficiently blocks the formation of preneoplastic lesions such as atrophic gastritis, epithelial hyperplasia and intestinal metaplasia (performed in C57Bl6 mice lacking the anti-inflammatory cytokine IL-10 which were infected with *H. felis*).

(2) The same treatment further leads to the regression of pre-existing lesions, a finding particularly promising as other treatments for these conditions are currently not available (performed in C57Bl6 mice which lack CD4+ T-cells and therefore develop preneoplastic lesions with similar kinetics as wild type mice, but with higher uniformity).

(3) PARP inhibition induces stable regression of preneoplastic lesions (well beyond the end of therapy) if applied together with antibiotic eradication therapy targeting the Helicobacter infection (performed in C57Bl6 Myd88^{-/-} mice).

Patent Status Patent application filed

Contact *Unitectra, Technology Transfer of University Zurich, Adrian Sigrist, Möhrlistrasse 23, CH-8006 Zürich, +41 44 634 44 01, mail@unitectra.ch*