Ovarian cancer cells show enhanced response to the novel FGFR inhibitor CPL-304-110

Katarzyna A. Kujawa1, Aleksandra Rusin1, Magdalena Olbryś1, Patrycja Tudrej1, Alexander J. Cortez1, Aleksandra Stańczak2, Maciej Wieczorek2, Katarzyna M. Lisowska1

1Center for Translational Research and Molecular Biology of Cancer, Maria Skłodowska-Curie Institute – Oncology Center, Gliwice Branch, 44-101 Gliwice, Poland
2Innovative Drugs R&D Department, Celon Pharma Inc., Mokra 41a, 05-092 Lomianki/Kielpin, Poland

Background
No selective inhibitor targeting Fibroblast growth factor receptor (FGFR) tyrosine kinases has been clinically approved, so far, although few are tested in preclinical and clinical studies. A novel selective FGFR inhibitor, CPL-304-110, was recently synthesized by Polish company Celon Pharma S.A. Here, we tested this inhibitor against several ovarian cancer cell lines.

Methods
Commercially available ovarian cancer cell lines (A2780, ES2, OAW42, OVCAR3, SKOV3) and our own newly established OVPA8 line, were used. CPL-304-110 was tested in the 0.0001-10 µM concentrations, for 72 hours, and compared to the control inhibitor AZD4547. Cell viability was determined using AlamarBlue assay (data analysis: GraphPad Prism).

Conclusion
Although some cell lines derived from other cancers show greater sensitivity against both inhibitors, in the ovarian cancer lines we observed evident trend toward enhanced efficacy of our novel FGFR inhibitor over the control one. This suggests that FGFR inhibitor effective against ovarian cancer can be synthesized.

The research was co-financed by the National Center of Research and Development and pharmaceutical company Celon Pharma S.A., project "CELONKO", grant number STRATEGMED2/266776/17/NCBR/2015.