A Predictive and Prognostic Biomarker for Endometrial Cancer

Stathmin and pStathmin(S38)
### The Challenge

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Initial Symptoms</strong></td>
<td>abnormal vaginal bleeding prior, during or after menopause</td>
</tr>
<tr>
<td><strong>Prevalence</strong></td>
<td>188,000 new cases per year, worldwide</td>
</tr>
<tr>
<td></td>
<td>- 3.7% of cancers in women</td>
</tr>
<tr>
<td><strong>Mortality</strong></td>
<td>42,000 deaths annually, worldwide</td>
</tr>
<tr>
<td><strong>Diagnosis</strong></td>
<td>Usually diagnosed early</td>
</tr>
<tr>
<td></td>
<td>- 70 - 75% of cases are at FIGO stage 1</td>
</tr>
<tr>
<td></td>
<td>- 10 - 15% of cases are in FIGO stage 2</td>
</tr>
<tr>
<td></td>
<td>- 10 - 15% of cases are in FIGO stage 3/4</td>
</tr>
<tr>
<td><strong>Treatment options</strong></td>
<td>surgery, radiation therapy, chemotherapy</td>
</tr>
</tbody>
</table>

- Recurring tumors have **limited response** to conventional systemic therapy
- Distinction between type I and II cancers is **suboptimal**
- **20%** of type I recur
- **50%** of type II do not
The Solution

- BTO holds a patent estate for a predictive and prognostic biomarker, enabling the tailoring of new and more targeted treatments, such as PI3K-mTOR inhibitors.

- There are currently no competing prognostic biomarkers on the market.

- This treatment is usable directly from the patient’s bedside.

- Guide for tailoring systemic therapies and surgical intervention

- Avoids unnecessary procedures in low-risk patients

- Avoids unnecessary side effects

- Overexpression of oncogenes Stathmin and pStathmin(S38) identify endometrial cancer patients with poor survival

- Identify endometrial carcinomas with lymph node metastases and poor survival

**CLINICAL TRIALS**
- Stathmin immunostaining in curettage and hysterectomy specimens have been examined in 1076 human endometrial carcinoma samples
- www.clinicaltrials.gov, NCT00598845
- pStathmin(S38) examined in 804 patients
The Opportunity

BTO

- Patent estate holder
- Clinical trial experience
- Network of researchers and key opinion leaders

Licensing Partner

- Market access in all major markets (i.e. Europe, US)
- Experience in development of biomarkers
  - Particularly within cancer of the corpus uteri / gynecological malignancy

Deal Terms → Exclusive worldwide license for Stathmin and pStathmin(S38) biomarker development

Sales volumes (est.)
- $28.2 million USD worldwide
- $13.2 million USD in EU
- $7.07 million USD in US

Stathmin Patent Estate:
INT Application Number: PCT/EP2011/072199
INT Publication Number: WO 2012/076650 A1
US Application Number: 12/962,946
US Publication Number: US 2011/0217701 A1

pStathmin(S38) Patent:
EPO EP13151267.5
I believe there is a strong need for markers of response to PI3K-mTor inhibitors in endometrial and also other cancers.

• Ignace Vergote, representative of ENGOT

The advent of such new biomarker may add value not only to current diagnostic and treatment procedures but also it could be used to triage women at high risk of EC to centres of excellence for their treatment, optimizing health care costs and reducing the time needed to obtain a diagnosis.

• Roberto Angioli MD, council member of ICGS

The overexpression of the oncogene Stathmin and phosphorylated Stathmin used for prognostic purposes seem to be a promising area of research in endometrial cancer.

• Vesna Kesic, president – elect/secretary – treasurer of ESGO

Without a doubt, there is potential and demand for such a biomarker.

• Martin Widschwendter, representative of ENTRIGO
• Hans W. Nijman, MD PhD, Professor Gynaecologic Oncology & Immunotherapy University Medical Center Groningen
Bergen Teknologioverføring (BTO) is a technology transfer office and business development office founded in 2004.

BTO commercialises research results and handles IP aspects on behalf of the Haukeland University Hospital and seven other academic institutions in Bergen, Norway.

Contact Details

Dr. Torsten Porwol
Phone: +47 55 58 30 52
Torsten.Porwol@bergento.no
Bergen Teknologioverføring
Thormøhlensgate 51
5006 Bergen
Norway