Gene expression analysis of tumors demonstrates an induction of Th1 type immune response following intratumoral administration of ONCOS-102 in refractory solid tumor patients

INTRODUCTION

ONCOS-102 (Ad5/3-D24-GMCSF) is a tumor-targeted oncolytic adenovirus coding for human GM-CSF

Intratumoral ONCOS-102 induces a systemic CD8+ T cell response against patient’s unique cancer cells:

**Multiple activatory mechanisms:**
- TLR stimulation (TLR9)
- Local GMCSF expression
- In situ vaccination
- Immuno logical memory

**Targeted anti-tumor immune response:**
- ONCOS-102 teaches immune system to recognize unique cancer cells of each patient
- Systemic anti-tumor immune response
- Innate immune system
- Immunological memory provides long term protection

**Strong co-stimulation:**
- Macrophages
- Natural killer cells
- Antigen presentation

**Expression of Th1 response genes in tumor biopsies**

**Baseline**
- Cytotoxic T cell
- Extracellular space
- Apoptosis
- Mitochondria

**After ONCOS-102**
- Cytotoxic T cell
- Extracellular space
- Apoptosis
- Mitochondria

**Gene expression analysis:** Work flow

**Induction of systemic anti-tumor CD8+ T cell response**

**Patient FI1-14 with malignant pleural mesothelioma (MPM)**

**BASELINE**
- Cytotoxic T cell
- Cytotoxic granule
- OZMB
- Granule exocytosis

**AFTER ONCOS-102**
- Cytotoxic T cell
- Cytotoxic granule
- OZMB
- Granule exocytosis

**CONCLUSIONS**

- ONCOS-102 monotherapy induced a systemic tumor-specific cytotoxic CD8+ T cell response
- Tumor-specific CD8+ T cell response was related to clinically significant tumor size reduction in last line cancer patient
- ONCOS-102 induced T1 polarization and T cell mediated apoptosis in chemotherapy refractory tumor tissue