SELECTED OPPORTUNITIES IN IMMUNOCARDIOLOGY

AN AGENT CAPABLE OF DEPLETING CD8 T CELLS FOR THE TREATMENT OF MYOCARDIAL INFARCTION OR ACUTE MYOCARDIAL INFARCTION (BIO 15275)
**Product factsheet**

- **Target:**
  - CD8

- **Product:**
  - CD8+ T cell depleting agent

- **Application:**
  - Myocardial infarction

- **Technology:**
  - Antibody

- **Rational / POC:**
  - Immune cells are recruited in myocardial tissue after ischemia reperfusion with beneficial or deleterious impact
  - The role of CD8+ T cells was not known
  - The team showed that depletion of CD8+ T cells reduces necrosis, remodeling and improves myocardial function in a mouse model of permanent coronary ligation
  - In human, CD8+T cells quickly infiltrates cardiac ischemic tissue
  - Animal Poc (Pig) in progress

- **Patent and publication:**
  - WO2017064034: An agent capable of depleting cd8 t cells for the treatment of myocardial infarction or acute myocardial infarction
Proof of concept

CD8+ T cells depletion reduces infarct size and fibrosis in peri-infarct area after permanent coronary ligation in mice

100 µg CD8 mAB

Or

D-1 D0 D1 D3 D5 D7 D10 D21 D56

A

Infarct size at day 21

CTRL αCD8

CTRL αCD8

B

Interstitial fibrosis at day 21

CTRL αCD8

CTRL αCD8
Proof of concept

**CD8⁺ T cells depletion improves left ventricular function (echocardiography) after permanent coronary ligation in mice**

**LV end-diastolic volume (cm³)**

**LV end-systolic volume (cm³)**

**% Ejection Fraction**

**LV systolic pressure (mmHg)**

**LV end-diastolic pressure (mmHg)**

**LV dP/dtmax (mmHg/s)**

**LV dP/dtmin (mmHg/s)**
Proof of concept

CD8+T cells infiltration in human cardiac ischemic tissue

A: 1 day after MI
B: 7 days after MI