Discovery and Development of an Anti-CD40 Agonistic Antibody for Cancer Immunotherapy

Zeyu Penga, Wei Shi, Wei Songb, Chen Shenb, Peng Lv, Shukai Xia, Jinyu Liua, Xiaoyao Hao, Hongyan Li, Mark Z. Ma, Mingjiu Chen

aBiosion, Inc., Nanjing, Jiangsu, China  bChia Tai Tianqing Pharmaceutical Group Co., Ltd., Lianyangang, Jiangsu, China

Introduction
CD40 agonism is able to promote anti-tumor immunity by stimulation of both innate and adaptive immune responses. A superior anti-CD40 agonistic antibody, BSI-038, was identified with enhanced binding affinity and bioactivity than Selicrelumab analog. It exhibited potent and dose-dependent anti-tumor activity in animal models. It was well-tolerated in pre-clinical studies with the highest non-severely toxic dose of 150 mg/kg in monkeys. Phase I trial was ongoing in China.

Effects of CD40-CD40L Signaling

BSI-038 Shows Higher Cellular Bioactivity

- BSI-038 Shows Higher Binding Affinity

- BSI-038 Shows Potent Anti-Tumor Activity In Vivo

- BSI-038 Shows Good PK Profile in Cynomolgus Monkey

Summary
- Higher binding affinity and higher in vitro and ex vivo bioactivity than Selicrelumab analog;
- Potent in vivo anti-tumor activity in multiple animal models;
- Well-tolerated in pre-clinical studies with the highest non-severely toxic dose of 150 mg/kg in monkeys;
- Phase I trial ongoing in China and data expected in Q3 of 2023.