

**POSTER PRESENTATION**

**Open Access**

# The human CD40 agonistic antibody ADC-1013 generates immune mediated anti-tumor effects in syngeneic tumor models in hCD40 transgenic mice

Sara M Mangsbo<sup>1</sup>, Niina Veitonmäki<sup>2</sup>, Erika Gustfson<sup>1</sup>, Karin Enell Smith<sup>2</sup>, Christina Furebring<sup>2</sup>, Per Norlén<sup>2</sup>, Malin Lindstedt<sup>3</sup>, Thomas H Tötterman<sup>1</sup>, Peter Ellmark<sup>2\*</sup>

From Society for Immunotherapy of Cancer 29th Annual Meeting  
National Harbor, MD, USA. 6-9 November 2014

Local activation of costimulatory pathways by e.g. CD40 activation has been shown to generate powerful systemic anti-tumor responses. Here we report significant anti-tumor effects obtained with an optimized fully human agonistic CD40 antibody, ADC-1013, in two syngeneic tumor models.

An hCD40 transgenic mouse (hCD40tg) strain was used to evaluate the immune mediated anti-tumor effects of ADC-1013. Dendritic cells obtained from hCD40tg mice were hCD40 positive and could be activated by stimulation with ADC-1013 to a similar extent as human monocyte derived dendritic cells. Furthermore, stimulation of dendritic cells from hCD40tg mice *in vitro*, with ADC-1013, induced antigen specific T cell activation.

Two different syngeneic tumor models, hCD40 negative MB49 bladder cancer and hCD40 positive B16.F10.hCD40 + melanoma, was used to demonstrate anti-tumor effects. Subcutaneous tumors from both models were characterized by flow cytometry and immunohistochemistry in hCD40tg mice. Treatment of the bladder cancer model (MB49) with ADC-1013 resulted in significant anti-tumor response and long term tumor immunity. The anti-tumor immunity was shown to be T cell dependent and naïve mice were protected from tumor challenge by transplantation of splenocytes from cured hCD40tg mice. In addition, significant anti-tumor effect was demonstrated in a subcutaneous B16.F10.hCD40+ melanoma model.

The human CD40 agonistic antibody ADC-1013 is the first costimulatory antibody optimized for local immunotherapy of cancer. Strong immune mediated anti-tumor

effects were demonstrated. ADC-1013 is currently in late pre-clinical development.

#### Authors' details

<sup>1</sup>Immunology, Genetics and Pathology, IGP, Uppsala University, Uppsala, Sweden. <sup>2</sup>Alligator Bioscience AB, Lund, Sweden. <sup>3</sup>Immunotechnology, Lund University, Sweden.

Published: 6 November 2014

doi:10.1186/2051-1426-2-S3-P251

**Cite this article as:** Mangsbo et al: The human CD40 agonistic antibody ADC-1013 generates immune mediated anti-tumor effects in syngeneic tumor models in hCD40 transgenic mice. *Journal for ImmunoTherapy of Cancer* 2014 **2**(Suppl 3):P251.

**Submit your next manuscript to BioMed Central  
and take full advantage of:**

- Convenient online submission
- Thorough peer review
- No space constraints or color figure charges
- Immediate publication on acceptance
- Inclusion in PubMed, CAS, Scopus and Google Scholar
- Research which is freely available for redistribution

Submit your manuscript at  
[www.biomedcentral.com/submit](http://www.biomedcentral.com/submit)



<sup>2</sup>Alligator Bioscience AB, Lund, Sweden  
Full list of author information is available at the end of the article