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First-in-class immune checkpoint inhibitor program presented by OREGA Biotech at SITC meeting

Preclinical-stage blocking antibodies against a novel immune checkpoint;
Increased response and survival to anti-PD1 in various PD1-resistant mouse models

Lyon, France, October 1st, 2019 – OREGA Biotech, the biotech company committed to the discovery of novel immuno-oncology targets for cancer immunotherapy, announced today the presentation of the preclinical data of its novel immune checkpoint program at the upcoming SITC meeting to be held November 6 -10, National Harbor, Maryland (USA).

The company has built an *in vivo* screening platform combining a knock-out (KO) approach against selected targets and several PD1 and/or CTLA4 resistant syngeneic mouse models aiming at identifying novel immune checkpoints and modulators of anti-PD1 or CTLA4 response. Using this target discovery approach, OREGA has already successfully identified CD39 as a novel immune checkpoint and the anti-CD39 program was licensed to Innate Pharma in 2016 and has been further partnered with AstraZeneca/MedImmune in 2018.

At SITC, we present for the first time a novel immuno-oncology target which plays a key role in anti-PD1 resistance. Whereas the used mouse models are broadly resistant to anti-PD1 mAb, the target KO markedly improved the efficacy of anti-PD1 therapy by increasing the response rates and the rate of complete vs partial responses, which translated into improved mouse survival. We report the generation of various human-mouse cross-reactive blocking antibodies to the target. The neutralizing antibodies mimicked the KO phenotype and markedly improved the response to anti-PD1 therapy in the preclinical mouse models.

Analyzing human metastatic melanoma tumors prior to pembrolizumab treatment, OREGA scientists found a stepwise increased expression of the target, its receptor and the signaling pathway from complete responders (low expression) to partial responders and non-responders (high expression), suggesting that the identified target is relevant to clinics.

Dr. Nathalie Bonnefoy, Deputy Director at Institut de Recherche en Cancérologie de Montpellier and acting Chief Scientific Officer at OREGA Biotech, commented: *“It is now well established that only patients achieving complete response to anti-PD1 are the ones that derive long-term survival benefit from these immunotherapies. We designed a program aiming at identifying targets that may turn PD1 resistant tumors into PD1 sensitive tumors, improve response to these therapies and promote long-term survival. We report for the first time preclinical data related to this novel immuno-oncology program. These data represent long term efforts which led us to identify a key regulator of PD1 and CTLA4 response”*.



“The identification of this target is a key achievement in our research”, added Jeremy Bastid, Chief Operating Officer of OREGA Biotech. “Presenting our work is important for us in order to move this program forward and identify partners. Our business model is partnership-driven and we are now initiating the search for a partner for this program. We have a solid intellectual property with 4 patent applications, significant target validation and antibody-based preclinical proof of concept. The target biology is well described and we believe we could build an alliance with a larger company to accelerate the preclinical development towards the clinical development”.

The poster #P286 “In vivo genetic screens in PD-1 resistant mouse models identified modulators of anti-PD1 response with relevance to pembrolizumab-treated human metastatic melanoma” will be displayed during the Poster Presentation session of the 2019 SITC meeting on Saturday, November 9, 7:00 am - 8:30 pm.

About OREGA Biotech

OREGA Biotech specializes in the discovery and the development of first-in-class monoclonal antibodies for cancer immunotherapy. Our in vivo screening platform aims at discovering and validating novel immune checkpoint inhibitors and regulators of anti-PD1 response. Anti-CD39 antibodies were licensed to Innate Pharma in 2016 and have been further partnered with AstraZeneca/MedImmune in 2018. Incepted in 2010, OREGA Biotech is based on the research conducted by its academic cofounders Nathalie Bonnefoy, Armand Bensussan and Jean-François Eliaou. Our business strategy is to establish preclinical proof of concept with new targets prior to enter into early stage partnership or license agreements with larger biotech or pharmaceutical companies. The company is managed by Gilles Alberici, CEO and Jeremy Bastid, COO.

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