MATWIN
MATURATION & ACCELERATING TRANSLATION **WITH INDUSTRY**

TECHNOLOGY OFFER

SUPPORTING INNOVATION AND TECHNOLOGY TRANSFER IN ONCOLOGY

ODIMMA

CONTEXT & BACKGROUND

Odimma leverages recent advances in the field of immuno-oncology to fight cancer in patients with the most difficult-to-treat tumours. By harnessing the ability of the patient's own immune system to specifically recognise non-self targets displayed by the tumour, also called neoantigens, Odimma is able to design potent new-generation personalised immunotherapies to effectively destroy tumour cells. Our technology is based on the advent of next generation sequencing technology that provides in less than one week a comprehensive map of somatic mutations in individual tumours (the «mutanome»). The panoply of mutations within a tumour generates potent neoantigens that induce a specific immune response directed against the tumour of a given patient. Our unique approach rests on delivery of these neoantigens to each patient in a highly immunogenic context in order to induce and amplify the immune response against each individual tumour, while being well tolerated for the patient.

INNOVATIVE COMPONENT & TECHNOLOGY

A powerful genetic immunisation platform integrating a viral adjuvant and an early immune checkpoint inhibitor (ICI).

The first component of the formulation is a variable personalised DNA vector expressing multiple neoantigens, considered more immunogenic than peptide and more stable than RNA vector.

The second component is a live poxvirus. A viral component like a poxvirus, is considered by the immune system as a danger signal and is therefore a source of an innate immune response potentiating the adaptive immune response against the neoantigens expressed by the DNA vector.

The third component is an ICI, directed against CTLA-4, acting locally in the draining lymph node of the administration site, in the earliest stages of immune activation. Low doses of anti-CTLA-4 are considered sufficient and reduce greatly the systemic exposure to anti-CTLA-4 and its possible side-effect.

SCOPE

Cancer Immunotherapy

KEYWORDS

Personalised medicine; Neoantigens

OBJECTIVES

The emergence of immunotherapy through immune checkpoint inhibitors (ICI) provides real hope in terms of cures. However, even if these products are active, sometimes spectacular, the effectiveness of treatment is observed in a proportion of patients ranging from 10% to 30% depending on the situation.

Used in combination with already marketed immunotherapy products, the personalised treatment developed by Odimma is intended to double the efficacy of these products, allowing more patients to benefit from immunotherapies.

DEVELOPMENT & MATURATION STAGE

Preclinical proof of concept

First experiments in mice demonstrated that the use of the formulation induces two-digit multiplicative effect on the immune response in comparison with vector alone, which is unprecedented in the field of immunotherapy.

INTELLECTUAL PROPERTY & PATIENT CO-OWNER(S)

PCT/FR2016/052598, national applications filed, Odimma SAS granted a worldwide exclusive licence

TARGET POPULATION

Patients with malignant neoplasia

TARGET PROFILE

A personalised immunotherapy to be used in combination with anti-PD(L)1 immune checkpoint inhibitors

STRENGHTS & COMPETITIVE ADVANTAGES

Quick turnaround time - powerful immunisation platform - favourable economic profile - non-GMO

INDUSTRIAL APPLICATIONS & OPPORTUNITIES

Licencing opportunity – Pharmaceutical collaboration

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