VISTA expression in patients with advanced solid tumors: A potential biomarker in VISTA-101 clinical trial

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Introduction

VISTA is a strong driver of immunosuppression in the tumor microenvironment
- Highly expressed in cold tumors
- Correlates with poor outcomes in cancer patients
- Up-regulated after CPI therapy and associated with treatment failure

Kineta has developed KVA12123, a fully human monoclonal antibody targeting VISTA
- Induces a strong anti-tumor response as a single agent or in combination therapies with anti-PD1 in multiple preclinical tumor models
- Well tolerated and does not induce release of CTS cytokines in non-human primates or in human whole blood
- Extended PK and binds to a unique epitope at neutral and acidic pH

Kineta opened Phase 1/2 clinical study evaluating KVA12123 alone and in combination with pembrolizumab in patients with advanced solid tumors

Objectives

To better understand the response to KVA12123 in relation to the expression level of VISTA in cancer tissues as well as in the blood, the following was evaluated:

- VISTA expression in selected human tumor tissues
- Soluble VISTA in serum collected from cancer patients and healthy donors

Phase 1/2 open-label clinical trial of KVA12123 alone and in combination with pembrolizumab in patients with advanced solid tumors (NCT05708950)

Results

Evaluation of soluble VISTA in serum collected from cancer patients

VISTA expression was detected by immunohistochemistry on tumor infiltrating immune cells, especially in non-small cell lung cancer, colorectal cancer, ovarian cancer, cervical cancer, melanoma and hepatocellular carcinoma.

VISTA expression was also detected on rare tumor cells in lung, head and neck, ovary and kidney malignancies
- Multiplex IHC will be performed to confirm VISTA-positive tumor-infiltrating myeloid cells
- High levels of soluble VISTA were found in colorectal, head & neck, kidney, lung and ovarian cancer patient serum samples

In the ongoing Phase 1/2 clinical trial, tumor tissues and serum samples will be collected from cancer patients prior to treatment with KVA12123 to inform the possible significance of these biomarkers.

This work will help to better understand the clinical response to KVA12123 in relation to the expression level of VISTA in cancer tissues as well as in the blood and opens the possibility to consider VISTA expression as a potential biomarker for efficacy.

Clinical Trial Page (NCT05708950)
A Clinical Trial of KVA12123 Treatment Alone and in Combination With Pembrolizumab In Advanced Solid Tumors (VISTA-101)
https://clinicaltrials.gov/ct2/show/NCT05708950