

CYT003-QbG10, a novel allergen-independent immunotherapy for allergic diseases, achieves significant efficacy in phase IIa pilot study

Increase of median allergen tolerance in hay fever patients by a factor of 100 ($p=0.016$) with QbG10 monotherapy

Schlieren (Zurich), Switzerland, September 20, 2006 - Cytos Biotechnology AG (SWX:CYTN) reported today full results from a pilot phase IIa clinical trial with CYT003-QbG10, a potentially universal immunotherapy for the treatment of allergic diseases. The Immunodrug™ candidate QbG10 has previously shown powerful and sustained efficacy in patients suffering from allergic asthma and rhinitis due to house dust mite allergy when applied in combination with an approved house dust mite allergen extract (see Press Release, April 25, 2006). Recent scientific findings suggested that the efficacy observed may be mediated through an allergen-independent mechanism of action.

The present study therefore assessed in an open-label setting in 10 hay fever patients the safety, tolerability and efficacy of CYT003-QbG10, i.e. monotherapy with QbG10 alone without addition of a specific allergen extract. The 10 patients received 6 weekly injections of 300µg CYT003-QbG10. The allergic status of the patients was determined at baseline (i.e. before treatment) and after treatment by the nasal provocation test, a standardized procedure that records allergic symptoms upon defined allergen exposure. The primary efficacy endpoint was defined as a 10-fold increase in allergen tolerance.

Treatment with CYT003-QbG10 led to a 100-fold increase in the median allergen tolerance upon allergen provocation ($p=0.016$). Thus, efficacy was comparable to what was observed in the previous phase IIa study using QbG10 combined with an allergen extract of house dust mites, suggesting that QbG10 acts indeed through an allergen-independent mechanism of action. CYT003-QbG10 therapy was safe and well tolerated.

The trial was conducted at the Center for Clinical Research at the University Hospital Zurich. Dr. med. Gabriela Senti, allergologist and head of the trials center commented: "This finding is important from both, a medical and a scientific point of view. QbG10 is designed to deliver a so-called Th1 stimulus to the patient's immune system, and Th1 cells are known to suppress so-called Th2 type immune responses which promote allergies. Therefore, this product candidate treats the underlying cause of allergic diseases and not only its symptoms. Most interestingly, the efficacy observed appears to be mediated through an allergen-independent mechanism of action so that QbG10 monotherapy could be used to treat multiple allergies. Furthermore, allergen-induced allergic side effects are the main adverse events seen in conventional allergen-specific immunotherapy and are one of the reasons preventing its wide-spread use. Omitting the allergen would thus make such a treatment safe and very attractive.

This finding may also help to further understand the cause for the dramatic increase of allergic diseases in industrialized societies over the last century. Allergy and asthma have been named an "epidemic in the absence of infection" (Science, 275:41). What the author of this phrase meant is that a "natural" stimulus of Th1 cells may be missing in a modern hygienic lifestyle. The stimulating agent described in this paper is *Mycobacterium tuberculosis*. Interestingly, the immunostimulatory sequence G10 that is contained in CYT003-QbG10 is a short stretch of DNA derived from such

mycobacteria. QbG10 may therefore simply deliver in a safe and well tolerated format what is missing *in the absence of infection.*"

About the phase IIa study

The open-label, single-arm study included 10 male and female patients aged 26-56 suffering from mild to moderate allergic rhinitis due to grass pollen allergy. Of the 10 patients, 5 could complete the study before onset of this year's grass pollen season and interim results have been reported in a Press Release on June 12, 2006. The remaining 5 patients could not perform the nasal provocation test during the ongoing grass pollen season since environmental exposure to pollen interferes with the standardized test procedure. Those 5 patients therefore performed the post-treatment provocation tests upon cessation of this year's pollen season (i.e. 5-8 months after start of treatment). Also for these patients, an increase in the median allergen tolerance by a factor of 100 was observed, indicating that the treatment effect was maintained through the entire pollen season.

About CYT003-QbG10

CYT003-QbG10 is an immunotherapeutic product in development for the treatment of allergy, asthma and atopic dermatitis. It consists of the Immunodrug™ candidate QbG10 which is comprised of the virus-like particle Qb filled with an immunostimulatory DNA sequence called G10. CYT003-QbG10 is designed to induce a potent Th1 type immune response in order to suppress "allergic" Th2 type immune responses. First clinical results indicate that CYT003-QbG10 could thereby act through an allergen-independent mechanism of action so that it has potential as a causal and disease-modifying treatment for a broad range of allergic diseases. CYT003-QbG10 is currently being studied in three double-blind and placebo-controlled phase IIa clinical trials for treatment of house dust mite and grass pollen allergy as well as for atopic dermatitis.

About allergic diseases

Allergy as a whole is a widespread disease that ranges from mild hay fever to seriously life threatening forms of asthma and anaphylaxis. According to the World Health Organization, more than 20% of the world population suffers from allergic diseases (WHO, 2002). Allergies due to house dust mites and grass pollen are both very common. Whereas house dust mite allergy is a perennial allergy afflicting about 50% of all allergic patients (Clin Exp Allergy, 2004; 34:597), allergy to grass pollen is one of the most frequent causes of seasonal allergic rhinitis (hay fever) starting in spring every year and affecting 15-20% of the European population (WHO Europe, 2003).

Glossary

Allergen: a normally harmless substance that elicits a misdirected immune response.

Allergen extract: a mixture of allergenic components.

Allergen tolerance: non-reactivity to a certain allergen or reactivity only up to the level of a predefined minimal symptom score.

Allergic rhinitis: a condition due to allergy that mimics a chronic cold. Rhinitis means "irritation of the nose".

Atopic dermatitis: a chronic skin disease (certain type of eczema) accompanied by an inherited tendency to develop allergic diseases.

Disease-modifying: in contrast to symptomatic treatment, a disease-modifying treatment aims at addressing the cause of disease and modifying the disease progression.

DNA: deoxyribonucleic acid; genetic information of an organism.

Endpoint: an outcome measure in a clinical trial.

Hay fever: seasonal allergic rhinitis.

Immunotherapy: a therapy aimed at activation of the immune system to modulate disease processes. Conventional immunotherapy for allergic diseases, also termed desensitization, is performed with allergen. CYT003-QbG10 therapy appears to act differentially, namely through an allergen-independent mechanism of action in the absence of an added allergen.

Median: a term used in the statistical analysis of a set of numbers; it relates to or constitutes the middle value in a distribution. 50% of the values are above and 50% below the median.

Monotherapy: treatment with one drug as opposed to combination therapy. Here the term refers to treatment with QbG10 alone (designated CYT003-QbG10) in contrast to an earlier applied regimen where QbG10 was combined to an allergen extract of house dust mites (designated CYT005-AllQbG10).

Nasal provocation test: a commonly used test to monitor the allergic status of an individual. Standardized aqueous allergen solutions are applied to the nasal mucosa in increasing concentrations and the score of predefined allergic symptoms is recorded.

Open-label: a set-up used in clinical trials where the doctor and the patient know what substance is administered.

Phase IIa: a clinical trial that examines a new drug candidate's safety and exploratory efficacy and may include between 10 - 100 patients.

QbG10: Cytos Biotechnology's Immunodrug™ candidate Qb filled with the immunostimulatory DNA sequence G10.

Th1 and Th2 type immune responses: describe T helper cell responses. T helper cells are a subset of T cells that secrete a variety of mediators (cytokines) playing a role in activation of other immune cells. A Th1 type immune response is usually induced by viral infection, or also by potent vaccination / immunotherapy. A Th2 type immune response usually manifests an allergic reaction.

About Cytos Biotechnology AG

Cytos Biotechnology AG is a public Swiss biotechnology company that specializes in the discovery, development and commercialization of a new class of biopharmaceutical products – the Immunodrugs™. Immunodrugs™ are intended for use in the treatment and prevention of common chronic diseases, which afflict millions of people worldwide. Immunodrugs™ are designed to instruct the patient's immune system to produce desired therapeutic antibody or T-cell responses that modulate chronic disease processes. Taking advantage of the high flexibility of its Immunodrug™ platform, Cytos Biotechnology has built a full pipeline of different Immunodrug™ candidates in various disease areas, of which 7 are currently in clinical development. The Immunodrug™ candidates are developed both in-house and together with Novartis and Pfizer Animal Health. Founded in 1995 as a spin-off from the Swiss Federal Institute of Technology (ETH) in Zurich, the company is located in Schlieren (Zurich). Currently, the company has 137 employees. Cytos Biotechnology AG has been listed on the SWX Swiss Exchange (SWX:CYTN) since October 2002.

For further information please contact:

Dr. Claudine Blaser
Director Corporate Communications
Phone: +41 44 733 47 20
Fax: +41 44 733 47 18
e-Mail: claudine.blaser@cytos.com
Website: www.cytos.com

This foregoing press release may contain forward-looking statements that include words or phrases such as "potentially", "may", "suggest", "designed", "appear", "could", "would", "indicate", "intend" or other similar expressions. These forward-looking statements are subject to a variety of significant uncertainties, including scientific, business, economic and financial factors, and therefore actual results may differ significantly from those presented. There can be no assurance that any other therapeutic entities will enter clinical trials, that clinical trial results will be predictive for future results, that therapeutic entities will be the subject of filings for regulatory approval, that any drug candidates will receive marketing approval from the U.S. Food and Drug Administration or equivalent regulatory authorities, or that drugs will be marketed successfully. Against the background of these uncertainties readers should not rely on forward-looking statements. The company assumes no responsibility to update forward-looking statements or adapt them to future events or developments. This document does not constitute an offer or invitation to subscribe or purchase any securities of Cytos Biotechnology AG.