EUROPEAN MEDICINES AGENCY
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Public summary of the evaluation of a proposed paediatric investigation plan

Dupilumab for treatment of atopic dermatitis

What is dupilumab, and how is it expected to work?

This medicine is expected to block the IL-4 receptor alpha subunit (IL-4Rα), meaning a blockade of signalling between different cells. This blockade is believed to reduce the inflammation and other processes that manifest as atopic dermatitis.

Dupilumab is not authorised in the European Union. Studies in adults and children are currently on-going. This medicine is proposed in adults for the the treatment of atopic dermatitis.

What was the proposal from the applicant?

For children, the applicant proposed to study the medicine in children from 2 years to 18 years old affected by atopic dermatitis, as part of a paediatric investigation plan*. The plan includes the development of a specific pharmaceutical form to be used in children*, solution for injection. It also includes a proposal to show efficacy and safety of the medicine in clinical studies. The future indication proposed for children is: treatment of moderate to severe atopic dermatitis (e.g., IGA ≥3) in paediatric patients from 6 months to less than 18 years of age, who are not adequately controlled with, or who are intolerant to topical medications.

The applicant proposed a deferral* for the development of a specific pharmaceutical form to be used in children and for paediatric clinical studies.

Is there a need to treat children affected by atopic dermatitis?

Since this condition occurs also in children, taking into account the proposed indication in adults, and the characteristics of the medicine, the Paediatric Committee considered this medicine of potential use for the treatment of atopic dermatitis.

What did the Paediatric Committee conclude on the potential use of this medicine in children?

At present, thereare some treatments available for the treatment of atopic dermatitis in children in the European Union. Therefore, to decide whether the use of this medicine will bring a benefit to the

children affected by the condition, and to understand any potential risks, the Committee considered that new data were required.

Because there is a need for more medicines for the treatment of atopic dermatitis in children, and this medicine has a potential interest for children, the Committee considered that clinical studies were necessary.

The Committee considered that there is also a need to develop a specific pharmaceutical form* of this medicine, which would allow to use the medicine safely and accurately in young children (solution for injection), and whose composition* must only include components that are known to be safe in children.

However, the Committee agreed with the request of the applicant that the development of a specific pharmaceutical form to be used in children and paediatric clinical studies should be deferred to avoid a delay in the availability of the medicine for adults.

What is the content of the Plan after evaluation?

The Paediatric Committee considered that:

- Studies are not necessary in some age groups of children because the specific medicinal product is likely to be unsafe in that age group.
- A pharmaceutical form* such as solution for injection was needed for children aged from 6 months old.
- It is necessary to study if the medicine is efficacious to treat the disease in children from 6 months of age. This will be done in 2 studies comparing the medicine to placebo.
- It is necessary to study the potential side effects of the medicine, to prevent them or to reduce the consequences if they occur. The main concern identified by the PDCO was the potential toxicity of the medicine for the immune system.

What happens next?

On 23 May 2014, the Paediatric Committee of the European Medicines Agency agreed a Paediatric Investigation Plan* (PIP) for dupilumab for the treatment of atopic dermatitis (EMEA-001501-PIP01-13). The applicant has now received the EMA Decision (P/0169/2014)* on this medicine. The Decision itself is necessary for the applicant to request in the future a marketing authorisation* for this medicine in adults and/or in children.

The Decision on the agreed Paediatric Investigation Plan means that the applicant is bound to perform the studies and trials with children in the next months or years. In case of difficulties, or a change in current knowledge or availability of new data, the applicant may request changes to the plan at a later stage. This can be done through a modification of the PIP.

The agreed completion of all the studies and trials included in the Paediatric Investigation Plan is July 2022.

Trials in the Paediatric Investigation Plan will be listed in the public EU Clinical Trials Register (https://www.clinicaltrialsregister.eu/) as soon as they have been authorised to be started, and their results will have to be listed in the register within 6 months after they have completed.

The results of the studies conducted in accordance with the agreed Paediatric Investigation Plan will be assessed, and any relevant information will be included in the Product Information (summary of product characteristics, package leaflet). If the medicine proves to be efficacious and safe to use in

children, it can be authorised for paediatric use, with appropriate recommendations on the dose and on necessary precautions. The product information will also describe which adverse effects are expected with the medicine, and wherever possible, how to prevent or reduce these effects.

Subsequent modifications of the agreed Paediatric Investigation Plan

On 21 January 2015, Regeneron Pharmaceuticals, Inc proposed to change some of the details of the previously agreed Plan.

The Paediatric Committee, after examining the request, agreed to modify the following details:

EMEA-001501-PIP01-13-M01

- Details in the clinical measures have been modified so as to not specify the initiation dates of some studies while maintaining the completion dates.

An updated Decision on the Plan has therefore been published on the EMA website (P/0122/2015).

*Definitions:

Applicant	The pharmaceutical company or person proposing the Paediatric Investigation Plan or requesting the Product-Specific Waiver
Children	All children, from birth to the day of the 18th birthday.
Paediatric investigation plan (PIP)	Set of studies and measures, usually including clinical studies in children, to evaluate the benefits and the risks of the use of a medicine in children, for a given disease or condition. A PIP may include "partial" waivers (for example, for younger children) and/or a deferral (see below).
Waiver	An exemption from conducting studies in children, for a given disease or condition. This can be granted for all children (product-specific waiver), or in specific subsets (partial waiver): for example, in boys or in children below a given age.
Deferral	The possibility to request marketing authorisation for the use of the medicine in adults, before completing one or more of the studies /measures included in a PIP. The Paediatric Committee may grant a deferral to avoid a delay in the availability of the medicine for adults.
Opinion	The result of the evaluation by the Paediatric Committee of the European Medicines Agency. The opinion may grant a product-specific waiver, or agree a PIP.
Decision	The legal act issued by the European Medicines Agency, which puts into effect the Opinion of the Paediatric Committee.
Pharmaceutical form	The physical aspect of the medicine (the form in which it is presented), for example: a tablet, capsule, powder, solution for injection, etc. A medicine can have more than one pharmaceutical form.
Placebo	A substance that has no therapeutic effect, used as a control in testing new drugs.
Active control	A medicine with therapeutic effect, used as a control in testing new drugs.
Historical control	A group of patients with the same disease, treated in the past and used in a comparison with the patients treated with the new drug.
Route of administration	How a medicine is given to the patient. For example: for oral use, for intramuscular use, for intravenous use, etc. The same medicine, or the same pharmaceutical form, may be given through more than one route of administration.
Patent	A form of protection of intellectual property rights. If a medicinal product is protected by a patent, the patent holder has the sole right to make, use, and sell the product, for a limited period. In certain circumstances, a patent for a medicinal product may be extended for a variable period by a Supplementary Protection Certificate.
Marketing Authorisation	When a Marketing Authorisation is granted, the pharmaceutical company may start selling the medicine in the relevant country (in the whole European Union, if the procedure was a centralised one).