



## Company Announcement

Wednesday 11<sup>th</sup> June, 2008.  
Melbourne, Australia.

### Clinuvel receives approval to begin Phase II trials in Solar Urticaria

- Fourth indication enters clinical trials
- Objective of photo protection in multicenter trial

Clinuvel Pharmaceuticals Limited (ASX: CUV; XETRA-DAX: UR9; ADR: CLVLY) announces that ethics approval has been granted to commence a Phase II clinical trial of its photo protective drug, CUV1647, in Solar Urticaria (SU).

SU is one of the five UV and light-related indications identified by Clinuvel to test its photo protective drug, CUV1647, and will be the fourth indication to commence clinical trials. For all the photodermatoses treated by CUV1647, the common factor is melanin compromised skin. The treatment of CUV1647 is preventative rather than therapeutic.

SU is a rare and severe, light related skin disorder, occurring in less than one percent of the population. Sufferers may develop a burning redness on the skin from limited exposure to sunlight. More prolonged exposure can result in the development of "wheals" or round red raised areas on the skin. These symptoms can also be accompanied by headache, nausea, breathing difficulty or fainting. The symptoms usually develop soon after sun exposure and last anywhere from 30 minutes to 24 hours. SU is classified as a severe disorder in dermatology.

Currently there is no preventative treatment available other than sun avoidance, and treatment is usually directed towards the relief of symptoms. Most commonly, antihistamines with or without systemic steroids are used. Desensitisation with UV light sources has been proposed but this carries the risk of provoking symptoms. Immunosuppressants such as cyclosporine and intravenous immunoglobulins are also being used in these patients.

The "preventative" use of CUV1647 has potentially major advantages over "treatment" of symptoms and it is anticipated that SU patients 'at risk' will experience a significant reduction in severity of attacks following exposure to UV and sun thus reducing or abolishing the requirement of immunosuppressive therapy. Furthermore, due to the chronic and severe nature of this disease, drugs with low toxicity and a high safety margin would be very desirable (e.g. CUV1647).

The Phase II SU trial will be conducted at Hope Hospital in Manchester, UK. This is the first site to be granted the necessary regulatory and Medical Ethics Committees (MEC) approval. Clinuvel is also in the process of obtaining approval from the relevant MECs at other trial sites in Europe (Vienna and Düsseldorf). It is anticipated that the Phase II trial will begin in the September quarter 2008 subject to recruiting. This trial is expected to complete within 9 months.

Clinuvel's CEO, Dr Philippe Wolgen said:

"Today's announcement marks the successive use and expansion of CUV1647 in the clinic, especially for patients who need treatment most. These approvals are important as we are breaking new ground with a molecule not used before in a group of patients, where effective treatment is not available. Although, SU concerns a small group of patients, the disease is very severe for those affected. From a corporate

perspective, we are advancing CUV1647 in a range of diseases; we anticipate demonstrating the wider potential of CUV1647 as a photo protective agent.”

### **About Solar Urticaria**

Urticaria is one of the most common dermatological conditions with diverse clinical presentations and causes<sup>1</sup>. Solar Urticaria (SU) is a rare subset of physical urticaria, where symptoms are induced by direct exposure of the skin to sunlight<sup>2</sup>. As little as 5 minutes of sun exposure can cause flares and whealing on exposed skin sites, accompanied by severe itching. The wavelengths of radiation causing the eruption (i.e. the action spectrum) are in the ultraviolet or visible light range. Initially described by Merklen in 1904<sup>3</sup>, SU may have a very sudden and dramatic onset, and then rapidly disappear once the exposure ceases<sup>4,6</sup>. A delayed form of SU has also been reported, although this is extremely rare<sup>4,6</sup>. Information on the pathophysiology of SU is limited and symptoms are confined to areas of the body exposed to direct sunlight<sup>4</sup>. The condition can be very distressing and severely impair the individual's ability to go outdoors and to tolerate indoor lighting. The standard therapy, i.e. oral antihistamines, is only partially effective and may provide little worthwhile relief of symptoms.

1 Criado PR et al. Urticaria. *An Bras Dermatol.* 2005; 80(6): 613-32.

2 Dice JP. Physical urticaria. *Immunol Allergy Clin N Am.* 2004;24(2004): 225-46.

3 Merklen P. Urticaria. In: Besnier E, Brocq L, Jacquet L, editors. *La pratique dermatologique: trait de dermatologie appliqué.* Paris: Masson et Cie; 1904. pp. 728-71.

4 Roelandts R. Diagnosis and treatment of solar urticaria. *Dermatologic Therapy* 2003; 16: 52-56.

5 Ng JCH et al. Changes of photosensitivity and action spectrum with time in solar urticaria. *Photodermatol Photoimmunol Photomed* 2002; 18: 191-195.

6 Ferguson J. Diagnosis and treatment of the common idiopathic photodermatoses. *Australasian Journal of Dermatology.* 2003; 44: 90-96.

### **Appendix I (Following Code of Best Practice, ASX)**

#### **Name of trial**

CUV0016. A Phase II, open label pilot study to evaluate the safety and efficacy of a bioresorbable subcutaneous implant of CUV1647 in patients with Solar Urticaria (SU).

#### **Primary endpoints**

- a) To determine whether a CUV1647 (synthetic  $\alpha$ -MSH analogue) bioresorbable implant can reduce the susceptibility of patients with Solar Urticaria to provocation with a standardized light source (measured as a change in minimum urticarial dose [MUD]). The effectiveness of CUV1647 will be assessed by determining the MUD before and after treatment.

#### **Secondary endpoints**

- a) To evaluate the safety/tolerability of CUV1647 by measuring treatment-emergent adverse events;
- b) To determine the effect of CUV1647 on the area of the wheal and flare at all responding sites following testing;
- c) To determine the effect of CUV1647 on melanin density at several specified body sites;
- d) To evaluate a change in the MUD between Days 30 and 60.

#### **Blinding status**

Open label.

#### **Product Development Status**

Good Manufacturing Practice (GMP) Standard.

#### **Treatment method, frequency, dose levels**

A single implant (16 mg CUV1647) administered subcutaneously.

#### **Number of trial subjects**

Approximately 10 patients

#### **Subject selection criteria**

- a) Male or female subjects with a diagnosis of Solar Urticaria (confirmed by phototesting) of sufficient severity that they have requested treatment to alleviate symptoms;
- b) React to provocation with a light source;
- c) Aged 18 to 70 years;
- d) Fitzpatrick Skin Type I-IV;

#### **Trial location**

Single centre trial in Europe at Hope Hospital, Manchester, UK.

**Expected duration of the trial**

9 months in total.

**Trial standard**

In compliance with Good Clinical Practices (GCP) and ICH guidelines.

**About Clinuvel Pharmaceuticals Limited**

Clinuvel Pharmaceuticals Limited (ASX: CUV, XETRA: UR9, ADR: CLVLY) is an Australian biopharmaceutical company developing its photo protective drug CUV1647 as a preventative treatment for a range of UV-related skin disorders as well as cancer related treatments.

The five indications are:

Indication	Description	Clinical Trial Status
Polymorphic Light Eruption (PLE / PMLE)	Severe sun poisoning	Phase III trials started May 2007
Erythropoietic Protoporphyrria (EPP)	Absolute sun intolerance	Phase III trials started April 2007
Actinic Keratosis (AK) and Squamous Cell Carcinoma (SCC) in Organ Transplant Patients (OTP)	Precursor to skin cancer / non-melanoma skin cancer	Phase II trials started October 2007
Solar Urticaria (SU)	Acute anaphylactic reaction to sun	Phase II trials started June 2008
Phototoxicity associated with Photodynamic Therapy (PDT)	Photo-sensitivity associated with cancer treatment	Phase II trials planned to begin 1 <sup>st</sup> half 2008

Our Phase I and II human clinical trials using CUV1647 have demonstrated that the drug is well tolerated and no significant safety concerns have been identified to date.

Following successful conclusion of the development program, Clinuvel will work closely with global regulators to facilitate marketing approval of CUV1647.

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**Safe harbour statement**

Clinuvel is an Australian biopharmaceutical company focussed on developing its photo protective drug, CUV1647, for a range of UV-related skin disorders resulting from exposure of the skin to harmful UV radiation. Pharmaceutical research and development involves long lead times and significant risks. Therefore, while all reasonable efforts have been made by Clinuvel to ensure that there is a reasonable basis for all statements made in this document that relate to prospective events or developments (forward-looking statements), investors should note the following:

- actual results may and often will differ materially from these forward-looking statements;
- no assurances can be given by Clinuvel that any stated objectives, outcomes or timeframes in respect of its development programme for CUV1647 can or will be achieved;
- no assurances can be given by Clinuvel that, even if its development programme for CUV1647 is successful, it will obtain regulatory approval for its pharmaceutical products or that such products, if approved for use, will be successful in the market place

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