

## ASX ANNOUNCEMENT

### CELLMID'S USA MIDKINE PATENT FOR ALOPECIA ALLOWED

- **Patent for midkine treatment of alopecia allowed by USPTO**
- **Comprehensive protection over therapies based on midkine for the prevention or reversal of hair loss due to general alopecia and acute alopecia due to chemotherapy in cancer patients**
- **Patent adds to substantial intellectual property around hair loss and growth**

**SYDNEY: Tuesday, 31, JANUARY 2017, Cellmid Limited (ASX: CDY)** is pleased to advise that the US Patent and Trademark Office has issued Notice of Allowance for the patent application number 14/464,358 entitled "Method of Treatment or Prevention of Hair Loss or for Enhancement of Hair Growth" (midkine or MK alopecia patent).

The midkine (MK) alopecia patent will expire in February 2031 and it adds to the significant intellectual property rights of Advangen Limited, Cellmid's wholly owned subsidiary engaged in the commercialisation of hair loss technologies. Other Advangen patents relate to the evolix® products that act through the inhibition of the FGF5 protein to prevent hair loss and increase hair growth.

The MK alopecia patent complements other members already granted in the patent family in Japan, Australia and the UK providing broad geographical protection over the use of the MK protein for the treatment of a number of conditions resulting in hair loss.

The alopecia patent also adds to the key patent families that ensure the Company's dominant intellectual property position over the treatment of inflammatory, ischaemic and autoimmune diseases, cancer and bone disorders by targeting or using MK.

Results presented in the current patent show that MK prevents hair follicles entering catagen, likely through anti-apoptotic action. As has been shown in other organs where MK prevents tissue injury associated with several diseases, it may help in the treatment of hair disorders by enhancing the protective and regenerative cell processes in the hair follicle.

One form of alopecia for which MK may be particularly useful is acute hair loss caused by chemotherapy. Hair loss is a common side effect associated with cytotoxic agents used in the treatment of cancer and causes considerable anxiety and loss of self esteem for many cancer patients.

Pre-clinical experimental evidence has shown that treatment with MK either prior to or during chemotherapy resulted in faster hair regrowth than for placebo treated subjects. Such findings pave the way for clinical trials in cancer patients. If successful, midkine-based treatment for hair loss may be of considerable benefit for many of these patients at the crucial stage of remission.

Cellmid's total patent portfolio, commercialised by three of its wholly owned subsidiaries, currently comprises 75 patents and applications in 16 patent families including patents covering the use of MK and anti-MK agents for therapeutic purposes in a number of diseases such as cancer, inflammatory conditions and autoimmune diseases. In addition, patents covering the use of MK as a diagnostic marker in cancer and other disorders provide for a companion diagnostic, potentially accelerating clinical development.

End

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### **Cellmid Limited (ASX: CDY)**

Cellmid is an Australian life sciences company with lead programs in multiple disease indications. The Company, through its wholly owned subsidiaries, Lyramid, Kinera and Advangen, develops and markets innovative novel therapies and diagnostic tests for fibrotic diseases, cancer, ischemic diseases of the heart and hair loss. Cellmid holds the largest and most comprehensive portfolio of intellectual property relating to the novel targets midkine (MK) and FGF5 globally. Intellectual property pertaining to this novel target is being exploited through wholly owned subsidiaries Lyramid and Kinera. Advangen, Cellmid's consumer health business, sells its FGF5 inhibitor hair growth products in Australia and Japan, and currently expanding distribution in other territories. For further information, please see [www.cellmid.com.au](http://www.cellmid.com.au) and [www.evolisproducts.com.au](http://www.evolisproducts.com.au).

### **Midkine (MK)**

Midkine is a growth factor that is highly expressed during embryonic development. Midkine modulates many important biological interactions such as cell growth, cell migration and cellular adherence. These functions are relevant to cancer, inflammation, autoimmunity, ischemia, nerve growth/repair and wound healing. Midkine is barely detectable in healthy adults and only occurs as a consequence of the pathogenesis of a number of different disorders. Midkine expression is often evident very early in disease onset, even before any apparent physical symptoms. Accordingly, midkine is an important early marker for diagnosing cancers and autoimmune diseases. Finally, midkine is only evident in a disease context, and targeting midkine is not expected to harm normal healthy tissues.

### **Investment in life sciences companies**

There are a number of inherent risks associated with the research, development and commercialisation of pharmaceutical products. Investment in companies specialising in these activities carry specific risks which are different to those associated with trading and manufacturing businesses. As such, these companies should be regarded as highly speculative. Cellmid recommends that investors seek professional advice before making an investment in its shares.