

## ASX ANNOUNCEMENT

## MIDKINE ISCHEMIA PATENT ALLOWED IN US

- US Patent for the use of midkine to stimulate nitric oxide synthesis
- Commercially important patent to Cellmid's heart attack program

**SYDNEY**, **26** July 2012: Cellmid Limited (ASX: CDY) Notice of Allowability has been issued by the United States Patent and Trademark Office (USPTO) for Cellmid's patent application 12/593,277 entitled "Nitric oxide synthase activator" ('277). This is a key midkine (MK) protein patent and fundamental to the company's program for the treatment of various forms of ischemia including heart attack.

This patent covers yet another novel mechanism of action for MK that is beneficial to tissue recovery after ischemia, and it strengthens the company's dominant intellectual property position across the MK space.

Patent '277 protects the use of MK to treat ischemic disorders including heart attack. Specifically, this patent covers the stimulation of nitric oxide (NO) synthesis by MK injection. Nitric oxide is a key signalling molecule that mediates blood flow, vasodilation and angiogenesis (growth of new blood vessels).

In the context of a heart attack, all of these processes are desirable in the affected tissue to aid recovery. Midkine could be administered systemically to heart attack victims to release NO in order to assist in the recovery of the affected cardiac muscle.

This patent complements Cellmid's other patent families that protect the use of MK to treat ischemic diseases, including the recently granted US patent 8,106,009, which was reported to the market on 14 November 2011. Together these patents provide multiple therapeutic mechanisms by which MK can assist in the treatment of ischemia.

Patent 12/593,277 is the fourth US patent allowance granted to Cellmid in the last nine months underpinning the Company's robust intellectual property strategy in all areas of MK biology. Cellmid holds the most significant intellectual property portfolio related to MK worldwide representing multiple product lines and commercialisation opportunities. Cellmid's patent portfolio currently includes 75 patents in 20 patent families, covering use of MK and anti-MK agents for therapeutic purposes in a number of diseases and the use of MK as a diagnostic marker in cancer and other disorders.

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## Cellmid Limited (ASX: CDY)

Cellmid is an Australian biotechnology company developing innovative novel therapies and diagnostic tests for inflammatory diseases, heart attack and cancer. Cellmid holds the largest and most comprehensive portfolio of intellectual property related to midkine and midkine antagonists globally. The Company's most advanced clinical development program is for the treatment of acute myocardial infarction (AMI) utilising the midkine protein. Cellmid is also developing anti-midkine antibodies for the treatment of inflammatory and autoimmune disorders. In addition, Cellmid is commercialising midkine as a biomarker for cancer diagnosis. Elevated midkine concentration in the blood and other body fluids is strongly indicative of cancer. Cellmid's first product, the MK-ELISA, is a blood test that sensitively and accurately measures serum midkine levels.

## Midkine (MK)

Midkine is a multifunctional 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, because midkine is only present in a disease context, targeting midkine does not harm normal healthy tissues.