



**BETH ISRAEL DEACONESS
MEDICAL CENTER**
Technology Ventures Office



BIDMC 917: VEGF/PIGF Signaling as a Target for Sepsis

➤ **New Therapeutic and Diagnostic Methods for VEGF & PIGF Drugs**

In the U.S., apart from heart attacks, sepsis is the leading cause of death in ICUs and is the 10th most common cause of death overall¹ with 751,000 cases annually.² Among ICU deaths worldwide, mortality ranges from 20% for sepsis to >60% for septic shock.³

VEGF family members including VEGF and platelet growth factor (PIGF) as well as their receptors Flt, Flk and soluble Flt-1, have been implicated in sepsis. These discoveries led, in part, by BIDMC's Drs. William Aird and Kiichiro Yano suggest new treatment options for sepsis. First, monitoring VEGF-related signaling molecules may help guide diagnoses. Second, therapeutic interventions antagonizing VEGF signaling may forestall organ failure to permit adjunct antibiotic therapy to take effect.

Lead Indication: Sepsis

- ✓ 751,000 new cases annually, US
- ✓ 1.9 M new cases annually, 7MM

Intellectual Property Offering:

- ✓ New use patent claims for therapeutics
- ✓ New diagnostic patent claims

Commercialization:

- ✓ Flexible licensing options

Competitive Advantages:

- ✓ New therapeutic option for common, acute, expensive medical condition
- ✓ Repurpose oncology compounds

The BIDMC Aird-Yano patent case covers new uses of anti-VEGF compounds and companion diagnostics. For companies with composition of matter rights to anti-VEGF compounds, this new use could expand market opportunities for their drugs or enable re-purposing of VEGF drugs.

Stage of Development:

In vivo proof-of-concept in mice⁴ and sheep;⁵ human clinical studies reported⁶

Patent & Licensing Status:

Patents pending in AU, CN, JP, EPO, US; see Publication #WO2007009071A2
Available for exclusive license

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⁽¹⁾ *N Engl J Med* (2003) 348(16):1546 ⁽²⁾ *Crit Care Med* (2001) 29(7):1303 ⁽³⁾ <http://en.wikipedia.org/wiki/Sepsis> (9/20/09) ⁽⁴⁾ *J Exp Med* (2008) 205(11):2623 ⁽⁵⁾ *Shock* (2009) CC Jonkam *et al.*; March 13 ⁽⁶⁾ *Wei Zhong Bing Ji Jiu Yi Xue* (2009) 21(3):172; *Ther Apher Dial* (2008) 12(4):285; *Shock* (2008) 29(4):452