Exclusive Opportunity

Novel Derivatives of Honokiol for Broad-Based Applications in Oncology

Emory Tech IDs: 01014, 05047, 07043

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Opportunity

- Novel analogs of honokiol, a naturally-occurring compound with a favorable toxicity profile
- Multiple cancer indications: melanoma, leukemia, multiple myeloma, prostate (bone metastases), breast and ovarian
- Potential monotherapy and adjuvant use in chemotherapy
- Higher potency compared to native compound
- Favorable IP position
- Unmet need and substantial market
Honokiol, A Natural Plant Product and Ancient Remedy

Dr. Jack Arbiser (Emory Dermatology) holding a Magnolia grandiflora seed cone
Honokiol and Cancer: a Well Developed Story at Emory

- Honokiol-Induced Apoptosis: breast, multiple myeloma, melanoma, colorectal carcinoma, angiosarcoma and prostate cancer
- Inhibits angiogenesis by blocking VEGF pathway
- Blocks cell survival/inhibition of apoptosis: NF-κB, MDR, phospholipase D, Mcl-1
- Enhances the effect of chemotherapeutic agents
Honokiol and/or Taxotere (docetaxel) decrease serum prostate-specific antigen in mice bearing prostate tumor bone xenographs.
Novel Honokiol Analogs

- Honokiol epoxide derivatives
- Effective in angiosarcoma and melanoma tumor models
- Higher potency compared to native honokiol
- Strengthens IP position and business opportunity
**Intellectual Property**

- “Antiangiogenic, Antitumor, and Chemopreventive Agents, including Magnolol and Honokiol, Derived from Magnolia Magniflora”
  - U.S. application pending, filed 3/02
  - Methods of treatment with native honokiol
- “Honokiol Derivatives for the Treatment of Proliferative Disorders”
  - U.S. and additional international patents pending, filed 2/06
  - Compositions and methods of use
- “Honokiol analogs and their use in treating cancers”
  - Provisional patent application, filed in 2007
  - Compositions of matter and methods of use
Development and Future Plans

- Demonstrate anti-tumor activity of honokiol epoxides for additional cancer types: breast, prostate, etc.
- Investigate honokiol epoxides as potential adjuvants in combination with other chemotherapy agents
- Generate toxicity profile
- Candidate for Proof-of-principle funding ($50K-$100K)
- Identify a licensee (existing company or start-up)