

Menadione

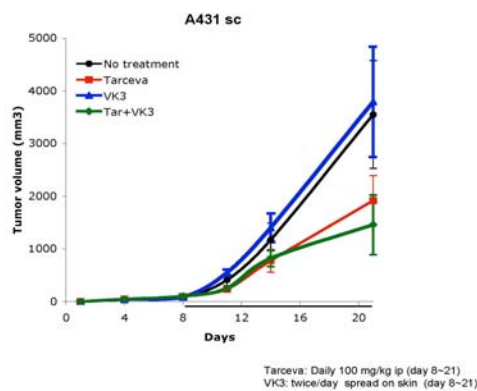
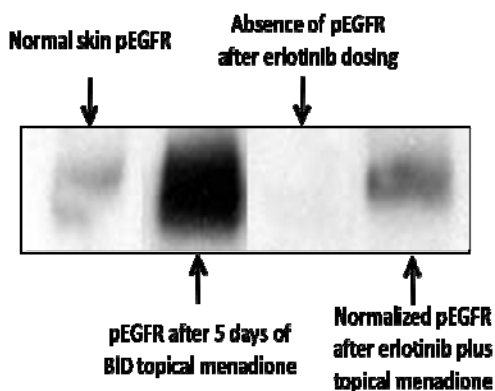
Addressing a pervasive treatment-limiting skin toxicity

Epidermal growth factor receptor (EGFR) inhibitors, like Tarceva® (erlotinib), Erbitux® (cetuximab), and Vectibix™ (panitumomab), are approved for the treatment of head and neck, lung, pancreatic, and colorectal carcinomas. An acneiform rash involving the face, neck, and upper torso occurs in up to 90% of patients treated with an EGFR inhibitor with up to 15% of cases being severe. Dose reduction or treatment cessation has been observed in up to 30% of rash-affected patients. The rash is believed to be due to EGFR inhibition in normal epidermis, sebaceous glands, and hair follicle epithelium. Topically applied menadione is designed to preserve EGFR signaling in skin without interfering with EGFR inhibition at the level of the target cancer cells is expected to prevent rash.

Preclinical data support the potential for menadione to prevent and/or treat EGFR inhibitor rash

- Inhibits phosphatase activity and sustains EGFR activity
- Functions as an EGFR tyrosine kinase (TK) activator
- Can rescue EGFR TK function in cells treated with cetuximab or erlotinib
- A topical formulation preserves EGFR TK activity in skin

Ongoing and planned trials will support FDA approval



- Phase I safety, tolerability, bioavailability, and proof-of-concept study in the treatment-emergent and pre-emergent settings in patients is ongoing
- Initiation of randomized Phase 2, beginning first quarter 2009
- Phase I study in normal, healthy volunteer subjects to establish dose-responsive pharmacokinetics and obtain biomarkers to verify on-target activity

Significant commercial opportunity based on wide-spread and growing EGFR inhibitor use, the opportunity for premium pricing, and the ability to support EGFR inhibitor full-dosing

HANA BIOSCIENCES

Gradon Knotts
Vice President-Business Development
7000 Shoreline Court, Suite 370
South San Francisco, California 94080

Main Phone: 650-588-6404
Direct Phone: 650-228-5048
Cell Phone: 650-823-0509
Fax: 650-228-5049

Email: gradon.knotts@hanabiosciences.com