Development of wildtype and knockout brain endothelial reporter cells

Summary (1024-character limit)
The National Cancer Institute seeks parties interested in co-development of safe and effective TEM5 agonists and/or antagonists that modulate WNT signaling.

NIH Reference Number
E-079-2015

Product Type
- Research Tools

Keywords
- Wnt
- catenin
- TEM5
- GPR 124
- St. Croix

Collaboration Opportunity
This invention is available for licensing and co-development.

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Description of Technology

Aberrant function of the WNT-b-catenin pathway is a common underlying cause of tumorigenesis. Despite the attractiveness of the WNT-b-catenin pathway as a therapeutic target, WNT dependent cell signaling is also crucial for normal tissue development, and is ubiquitous in all organs. As a result, WNT-b-catenin pathway inhibitors cause many side effects and fail to meet FDA safety standards. A more targeted approach is needed to develop safe and effective WNT signaling inhibitors.

Researchers at the NCI Mouse Cancer Genetics Program have developed a reporter cell based assay to identify inhibitors of TEM5 (GPR124), a co-receptor for Wnt7 that is primarily localized in the cerebrovascular tissue and further enriched in tumor vasculature. Therapeutics specifically targeting TEM5, which is locally enriched in and required for the formation of tumor associated vasculature, have

greater potential to avoid the development and regulatory pitfalls associated with other WNT signaling inhibitors. The National Cancer Institute therefore seeks parties interested in co-discovery and co-development of safe and effective TEM5 agonists and/or antagonists that modulate WNT signaling.

Potential Commercial Applications

- High throughput screen for TEM5 (GPR12) inhibitors

Competitive Advantages

- TEM5 is selectively upregulated in cerebrovasculature of tumors
- TEM5 inhibitors have less potential for causing side effects compared to other Wnt signaling inhibitors

Inventor(s)

Brad St. Croix (NCI)

Development Stage

- Discovery (Lead Identification)

Publications

Posokhova E et al. [PMID:25558062]

Cullen M et al. [PMID:21421844]

Patent Status

- **Research Material:** NIH will not pursue patent prosecution for this technology

Therapeutic Area

- Cancer/Neoplasm