Washington University in St. Louis
Office of Technology Management

MUTANT PDGF-B AS A VEGFR INHIBITOR

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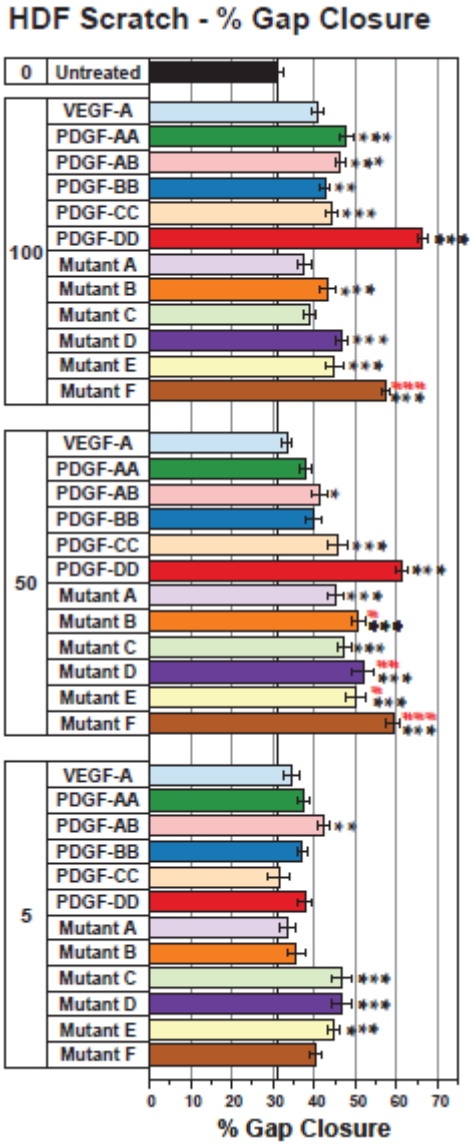
Technology Description

Researchers in the Imoukhuede lab at Washington University have developed a library of mutant PDGF-B proteins to develop more effective VEGF pathway inhibitors. As PDGF-B also binds to VEGF receptors, a mutant form can be used to block VEGF binding and stop tumor angiogenesis.

Bevacizumab, a successful VEGF inhibitor, is used in a variety of cancers to prevent angiogenesis. However, its efficacy is reduced due to the cross-family receptor binding of PDGF to VEGF receptors. Blocking VEGFR2 occupancy with mutant PDGF-B is a more effective strategy to prevent angiogenesis.



Stage of Research

The researchers have developed a PDGF-B mutagenesis library and are screening potential mutants. They are specifically characterizing mutants that can inhibit VEGF receptors and do not activate PDGF receptors.

Applications

- Competitor of bevacizumab and other VEGF inhibitors
    - Wide variety of cancers
    - Macular degeneration

Key Advantages

- Inhibits VEGF receptors to prevent angiogenesis
- Overcomes poor efficacy of existing VEGF inhibitors
    - PDGF-B contributes significantly to VEGFR2 occupancy
    - Mutant PDGF-B outcompetes for VEGFR2 binding

Patents: Pending

Related Web Links: Imoukhuede Profile & Lab