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# **β-CATENIN/T-CELL FACTOR (TCF) FOR TARGETING CANCER AND IMMUNE TOLERANCE**

## **THERAPEUTICS**

Small molecule inhibitors of the β-catenin/Tcf interaction for modulation of Wnt signaling in cancer, fibrosis, kidney disease and immune response.

### **TECHNOLOGY TYPE**

Small Molecule  
Oncology  
Immuno-Oncology

### **STAGE OF DEVELOPMENT**

- Preclinical.

- Ongoing in vivo animal studies.

### **IP PROTECTION**

#### **Nationalized PCT and Continuation Issued in the United States**

Substituted 1H-indazol-1-ol analogs as inhibitors of beta catenin/Tcf protein-protein interactions

US9284299B2

US9738628B2

### **LEARN MORE**

Reference Number: U-5285

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### **TECHNOLOGY SUMMARY**

Irregular activation of the Wnt/β-catenin pathway leads to initiation and progression of many cancers, such as colorectal cancer, leukemia, and multiple myeloma. Cancer stem cells, which are resistant to conventional therapies, are also controlled by Wnt signaling. Recent studies indicate Wnt/β-catenin signaling provides therapeutic benefits as a molecular switch between opposing immune functions to treat autoimmune diseases, cancer, and infectious diseases.

The proposed technology describes design and synthesis of micro-molar inhibitors of β-catenin/Tcf inhibitors with outstanding selectivity, suitable for additional drug development.

### **FEATURES AND BENEFITS**

- Novel approach to cancer treatment involving augmentation of autoimmunity.
- Suppresses Wnt signaling.
- Exhibits increased selectivity for β-catenin/Tcf protein-protein interactions.
- Inhibits growth of cancer cells.
- Downregulates expression of target genes.

### **RECENT PUBLICATIONS**

Hoggard, L.R., Zhang, Y., Zhang, M., Panic, V., Wisniewski, J.A., Ji, H. (2015). Rational design of selective small-molecule inhibitors for β-catenin/B-cell lymphoma protein-protein interactions. *Journal of the American Chemical Society*. 137(38):12249-12260. doi: [10.1021/jacs.5b04988](https://doi.org/10.1021/jacs.5b04988).  
Catrow, J.L., Zhang, Y., Zhang, M., Ji, H. (2015). Discovery of selective small-molecule inhibitors for the β-catenin/T-cell factor protein-protein interaction through the optimization of the acyl hydrazine moiety. *Journal of Medicinal Chemistry*. 58(11):4678-4692. doi: [10.1021/acs.jmedchem.5b00223](https://doi.org/10.1021/acs.jmedchem.5b00223).

### **INVENTOR PROFILE**

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