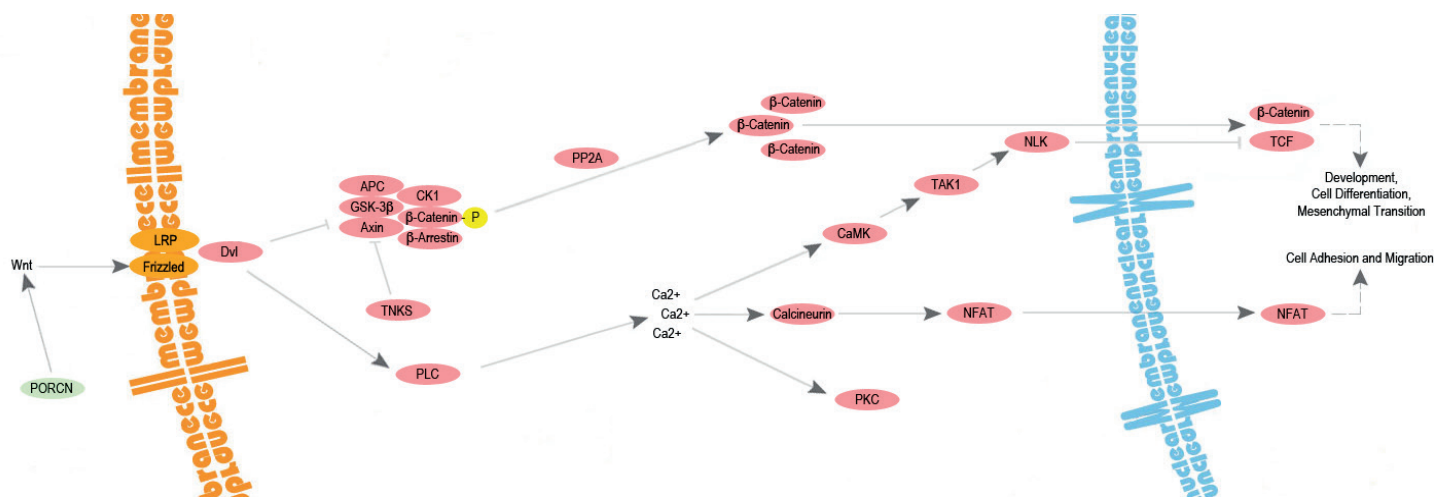


Wnt Signaling

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Biochemicals for Life Science Research



Introduction to the Wnt signaling pathway



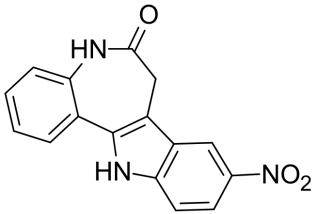
The family of Wnt signaling pathways includes three pathways, all stimulated through the binding of Wnt to the surface receptor Frizzled. The canonical Wnt signaling pathway transduces the signal from Frizzled to Dishevelled, a protein that further signals to a destruction complex bound to β -catenin. Unless stimulated, this complex of proteins induces proteasomal degradation of β -catenin. When activated, β -catenin is dephosphorylat-

ed and enters the nucleus to stimulate cell proliferation, cell differentiation, and development. The non-canonical/calcium-dependent Wnt signaling pathway is involved in regulation of intracellular calcium levels and cell adhesion. Here, Dishevelled interacts with a trimeric G-protein to stimulate downstream release of calcium, which activates calcineurin and CaMK, leading to activation of the transcription factor NFAT. Lastly, the non-

canonical/planar cell polarity pathway (not shown) transduces signals from Dishevelled to Rho and ROCK to stimulate actin polymerization and cytoskeleton restructuring. Several components in these pathways play a role in the development of several diseases, including cancer and type 2 diabetes.

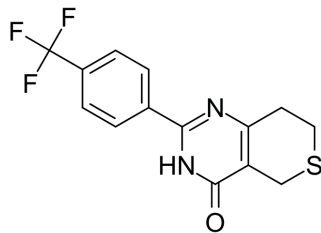
Wnt Signaling Modulators

| ID | Name | Description | Purity |
|-------|----------------------------------|------------------------------------|-------------|
| A4577 | Alsterpaullone | Indirectly activates Wnt signaling | $\geq 98\%$ |
| B3573 | Bisdemethoxycurcumin | Indirectly inhibits Wnt signaling | $\geq 98\%$ |
| C2945 | Chlorophyllin sodium copper salt | Indirectly inhibits Wnt signaling | $\geq 99\%$ |
| K9600 | KY-02111 | Indirectly inhibits Wnt signaling | $\geq 98\%$ |
| M9367 | Myricetin | Indirectly activates Wnt signaling | $\geq 98\%$ |
| N1982 | Neuromedin U, rat | Indirectly activates Wnt signaling | $\geq 95\%$ |
| O1078 | Octreotide acetate | Indirectly inhibits Wnt signaling | $\geq 98\%$ |



A4577 Alsterpaullone

Tankyrase Inhibitors



X0384 XAV-939

| ID | Name | Description | Purity |
|-------|---------|-----------------------------|-------------|
| J8800 | JW55 | Directly inhibits tankyrase | $\geq 98\%$ |
| X0384 | XAV-939 | Directly inhibits tankyrase | $\geq 95\%$ |

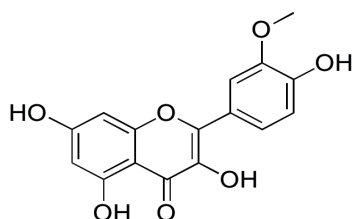
Tankyrase are members of the Poly (ADP-ribose) polymerase (PARP) family of proteins that contain ankyrin repeats, an oligomerization domain, and a PARP catalytic domain. Tankyrase interact with Axin, one component of the β -catenin destruction complex, inducing Axin degrada-

tion through the ubiquitin-proteasome pathway. Inhibition of tankyrase stabilizes Axin, stimulating destruction of β -catenin and preventing downstream activation of processes such as cell differentiation and epithelial-to-mesenchymal transition.

β-Catenin Inhibitors

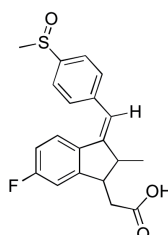
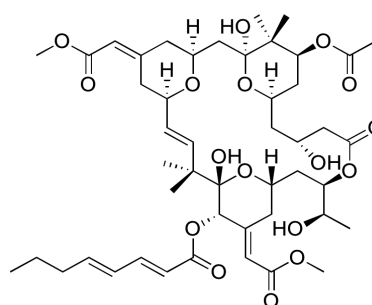
β-Catenin is a protein that regulates cell adhesion, differentiation, and development. β-Catenin is a component of the cadherin protein complex that amplifies signal transduction and stimulates gene transcription in the Wnt signaling pathway. This protein binds transcription factors to stimulate development of entire body regions in early embryo stages. It also plays a role in the maintenance of stem cell pluripotency and differentiation. In later development stages, it induces epithelial-to-mesenchymal transition. Mutations in β-catenin are commonly implicated in cancers such as hepatocellular carcinoma, colorectal cancer, ovarian carcinoma, and lung cancer. Often, these cancers feature loss-of-function mutations that prevent regulation of β-catenin and allow it to stimulate gene transcription unchecked.

| ID | Name | Description | Purity |
|-------|---------------------|-------------------------------|--------|
| A4931 | 3-Aminobenzamide | Indirectly inhibits β-catenin | ≥97% |
| B6998 | Bryostatin I | Indirectly inhibits β-catenin | ≥98% |
| E7309 | Esculetin | Directly inhibits β-catenin | ≥98% |
| I7357 | Isorhamnetin | Indirectly inhibits β-catenin | ≥98% |
| S8145 | Sulindac | Indirectly inhibits β-catenin | ≥98% |
| S8147 | Sulindac Sulfide | Indirectly inhibits β-catenin | ≥98% |
| S8146 | Sulindac Sulfone | Indirectly inhibits β-catenin | ≥97% |
| T1777 | S,S-(+)-Tetrandrine | Indirectly inhibits β-catenin | ≥98% |
| T7035 | Triptolide | Indirectly inhibits β-catenin | ≥98% |
| T7056 | Troglitazone | Indirectly inhibits β-catenin | ≥97% |

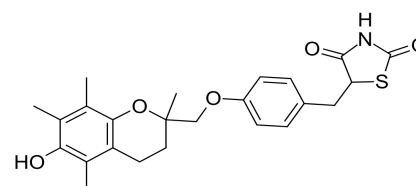


I7357 Isorhamnetin

B6998 Bryostatin I



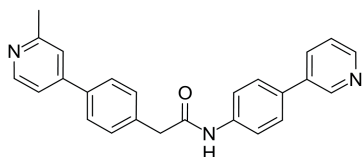
S8145 Sulindac



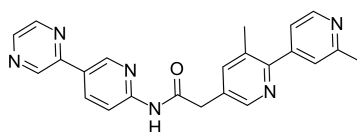
T7056 Troglitazone

PORCN Inhibitors

| ID | Name | Description | Purity |
|-------|---------|-------------------------|--------|
| C0800 | C59 | Directly inhibits PORCN | ≥98% |
| I9060 | IWP-2 | Directly inhibits PORCN | ≥98% |
| L2540 | LGK-974 | Directly inhibits PORCN | ≥98% |



C0800 C59



L2540 LGK-974

PORCN is a member of the membrane-bound O-acyl transferase (MBOAT) family that regulates Wnt signaling. Palmitoylation by PORCN is required for Wnt to be released from the Golgi to the cell surface and also to bind to the Frizzled receptor. Without PORCN, Wnt ligands are not secreted and embryos fail to gastrulate. PORCN is a key protein required for embryonic development, but inhibiting it can also limit Wnt-driven signaling of β-catenin and other proteins that play roles in the development of diseases such as cancer.



About Us

LKT Labs is focused on the production and distribution of high purity biochemicals for all types of life science research, including cancer biology, immunology, cardiovascular studies, microbiology, and neuroscience. Our product library includes a wide variety of compounds that can be used for a broad spectrum of in vitro and in vivo research applications.

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