# Article information:

Mechanisms and inhibition of Porcupine-mediated Wnt acylation | Nature  
<https://www.nature.com/articles/s41586-022-04952-2>

# Article summary:

1. Wnt signalling is essential for human development and stemness, and is triggered by the interactions between Wnt and its receptor Frizzled.

2. Porcupine (PORCN) is the only enzyme that catalyses Wnt lipidation, which is essential for Wnt signal activation.

3. Structural studies of PORCN have revealed the mechanism of MBOAT-mediated lipid modification, as well as insights into the development of small-molecule anti-cancer drugs.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

The article provides a comprehensive overview of the mechanisms and inhibition of Porcupine-mediated Wnt acylation. The article presents evidence from structural studies to support its claims, such as the necessity of palmitoyl modification of Hedgehog ligand in Hedgehog signal transduction, and the highly conserved sequence of Wnt hairpin 2 among different Wnts. The article also discusses potential inhibitors of PORCN activity, such as LGK974 and ETC159, which have been found to reduce the size of Wnt-dependent tumours.

The article does not appear to be biased or one-sided in its reporting; it presents both sides equally by discussing both positive effects (e.g., potential inhibitors reducing tumour size) and negative effects (e.g., deficiency or mutations in PORCN causing focal dermal hypoplasia). However, there are some missing points that should be considered when evaluating this article's trustworthiness and reliability. For example, while it mentions potential inhibitors such as LGK974 and ETC159, it does not provide any evidence for their efficacy or safety in clinical trials or other studies. Additionally, while it discusses potential risks associated with PORCN deficiency or mutations, it does not discuss any possible risks associated with using these inhibitors in clinical settings. Furthermore, while it mentions 19 human Wnt ligands that activate the Wnt signalling pathway through both paracrine and autocrine signalling, it does not provide any evidence for their efficacy or safety either.

In conclusion, this article provides a comprehensive overview of Porcupine-mediated Wnt acylation mechanisms and inhibition; however there are some missing points that should be considered when evaluating its trustworthiness and reliability.

# Topics for further research:

* Clinical trials of LGK974 and ETC159
* Safety of Wnt inhibitors
* Risks associated with PORCN deficiency
* Efficacy of Wnt ligands
* Autocrine and paracrine Wnt signalling
* Focal dermal hypoplasia associated with PORCN mutations

# Report location:

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