# Article information:

Assembly of pathway enzymes by engineering functional membrane microdomain components for improved N-acetylglucosamine synthesis in Bacillus subtilis - ScienceDirect  
<https://www.sciencedirect.com/science/article/pii/S1096717620300999?via%3Dihub>

# Article summary:

1. Engineering of FMM components can improve the plasma membrane order degree and promote enzyme assembly.

2. Overexpression of SPFH domain and YisP protein, as well as two heterologous enzymes, GNA1 and YqaB, can increase the GlcNAc titer in flask to 8.30 ± 0.57 g/L.

3. FMM component modification can maintain cell fitness at the later stage of fermentation.

# Article rating:

Appears well balanced: The article presents the information in a reliable and balanced way, without biases and prejudices. The claims made in the article are well supported and, where applicable, all sides of the argument are given opportunity to present their point of view. The article appears trustworthy and reliable.

# Article analysis:

The article “Assembly of pathway enzymes by engineering functional membrane microdomain components for improved N-acetylglucosamine synthesis in Bacillus subtilis” is a scientific study that provides an overview of how engineering FMM components can improve the plasma membrane order degree and promote enzyme assembly for increased N-acetylglucosamine (GlcNAc) synthesis in Bacillus subtilis cells. The article is written in a clear and concise manner, providing detailed information on the methods used to engineer FMM components, as well as the results obtained from this process. The authors also provide evidence to support their claims, such as di-4-ANEPPDHQ staining results which show an increase in membrane order after overexpression of SPFH domain and YisP protein, as well as increased GlcNAc titer after assembly of two heterologous enzymes GNA1 and YqaB into FMMs. Furthermore, they also discuss how FMM component modification can maintain cell fitness at the later stage of fermentation.

In terms of trustworthiness and reliability, this article appears to be unbiased and presents both sides equally without any promotional content or partiality towards one side over another. It does not appear to have any unsupported claims or missing points of consideration that could affect its credibility or accuracy. Additionally, it does not appear to have any unexplored counterarguments or missing evidence for the claims made that could undermine its trustworthiness or reliability. Furthermore, possible risks are noted throughout the article which further adds to its credibility and accuracy.

In conclusion, this article appears to be trustworthy and reliable due to its unbiased presentation of both sides equally without any promotional content or partiality towards one side over another; lack of unsupported claims or missing points of consideration; lack of unexplored counterarguments or missing evidence for the claims made; and noting possible risks throughout the article which further adds to its credibility and accuracy.

# Topics for further research:

* N-acetylglucosamine synthesis
* Bacillus subtilis engineering
* Functional membrane microdomain components
* Membrane order degree
* Enzyme assembly
* Fermentation cell fitness

# Report location:

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