



THE UNIVERSITY of TEXAS

HEALTH SCIENCE CENTER AT HOUSTON

Office of Technology Management

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The Technology: Dr. William Dowhan at the University of Texas Health Science Center at Houston (UTHSC-H) has developed a bacterial strain to construct null mutants in specific steps of phospholipid biosynthesis. The anionic phospholipid (phosphatidylglycerol and cardiolipin) content of the mitochondria can be varied and controlled in these mutants. This bacterial strain lacks phosphatidylethanolamine (PE) and contains monoglucosyldiacylglycerol. At present, the role of individual phospholipids in specific membrane functions is not completely understood. Mutants with defects in the biosynthesis of particular classes of phospholipids provide a powerful tool to study different membrane associated processes and specifically the involvement of phospholipids in protein translocation across membranes

Publications:

- Dowhan, W. (1997). Molecular basis for membrane phospholipid diversity: Why are there so many phospholipids. *Annu. Rev. Biochem.* 66: 199-232.
- Mileykovskaya, E., Sun, Q., Margolin, W. and Dowhan, W. (1998). Localization and function of early cell division proteins in filamentous *Escherichia coli* cells lacking phosphatidylethanolamine. *J. Bacteriol.* 179: 4252-4257.
- Mikhaleva, N. I., Golovastov, V. V., Zolov, S. N., Bogdanov, M. V., Dowhan, W., and Nesmeyanova, M. A.: Depletion of phosphatidylethanolamine affects secretion of *Escherichia coli* alkaline phosphatase and its transcriptional expression. *FEBS Lett.* 30: 85-90, 2001

NON-CONFIDENTIAL TECHNOLOGY DESCRIPTION

The preceding is intended to be a non-confidential summary of a novel technology created at the University of Texas Health Science center at Houston (UTHSCH), for which the University has obtained patent protection.

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Inventors: Dowhan

Patent Status: N/A

License Available: world-wide; non-exclusive

To obtain further information about this technology, please contact:
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