



THE UNIVERSITY of TEXAS

HEALTH SCIENCE CENTER AT HOUSTON

Office of Technology Management

PACLITAXEL RESISTANT AND DEPENDENT CELL LINES

The Technology: Dr. Fernando Cabral at the University of Texas Health Science Center at Houston (UTHSC-H) has developed a series of mutant cell lines with altered sensitivity to antimetabolic drugs. Paclitaxel is a drug that binds to polymerized tubulin and inhibits microtubule disassembly. One of the major limitations in using these drugs, however, is the emergence of drug resistant tumor cells. The inventor has found that some tubulin isotypes alter sensitivity to antimetabolic drugs by perturbing microtubule assembly, while others have little effect on assembly but increase the binding of specific drugs.

Publications:

- Wang, Y., and Cabral, F (2005). Paclitaxel resistance in cells with reduced β -tubulin. *Biochem. Biophys. Acta* 1744, 245-255.
- Kamath, K., Wilson. L., Cabral, F., and Jordan, M.A. (2005). β III-tubulin induces paclitaxel resistance in association with reduced effects on microtubule dynamic instability. *J. Biol. Chem.* 280, 12902-12907.
- Wang, Y., Win, S., Blade, K., Cooper, G., Menick, D.R., and Cabral, F. (2006). Mutations at Leucine 215 of β -tubulin affect paclitaxel sensitivity by two distinct mechanisms. *Biochemistry*, 45, 185 - 194

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.

UTHSC-H Ref. No.: 2007-0018-rmd

Inventors: Cabral

Patent Status: N/A

License Available: world-wide; non-exclusive, exclusive

To obtain further information about this technology, please contact:
Office of Technology Management, 7000 Fannin, Suite 720, Houston, TX, 77030
Phone: (713) 500-3369 Fax: (713) 500-0331
Email: uthsch-otm@uth.tmc.edu