

FOR IMMEDIATE RELEASE

New Research Confirms Maitake D-Fraction Induces Apoptosis in Breast Cancer Cells by BAK-1 Gene Activation

East Rutherford, New Jersey (July 26, 2011) - Breast cancer is the most commonly diagnosed cancer and the second leading cause of cancer deaths in women. A group of researchers from Portugal and Argentine, recognizing the need for an “effective and rapid” treatment for breast cancer, examined the direct anti-tumor effect Maitake D-Fraction^(*) has against breast cancer cells. The proprietary protein-bound polysaccharide extract, Maitake D-fraction, developed by Mushroom Wisdom, Inc., is known to be a most potent immune-enhancing mushroom fraction on the natural product market, activating macrophage, T cells and natural killer cells. Its activity of inducing apoptosis in prostatic cancer has already been reported by researchers at New York Medical College.

This paper, just published in the *Journal of Medicinal Foods* 2011 Jun;14(6):563-72, assessed the activity that D-fraction had on cell viability (survival) and apoptosis (necessary cell death) on a strain of human breast cancer cells. Five different concentrations and one untreated control were incubated for 24 hours. The cells treated with D-fraction exhibited decreased cell viability in a dose-dependent manner, meaning that the more of the D-fraction that was used the more pronounced the effect. Using a genomic analysis, twenty-two pro-apoptosis genes were found to be up-regulated and at the highest dose, a 25-fold increase in the BAK-1 gene, which is known to promote apoptosis (cell death), was discovered. Further investigation into this stimulation of the apoptosis process also observed the release of cytochrome c, an intermediate to induce caspase activation from the mitochondria, providing supporting evidence that the Maitake D-fraction’s actions in this regard involves mitochondrial dysfunction.

The result of this research is significant as it looked into specific details of the cancer cell death inducing action of Maitake D-fraction on breast cancer cells that involves pro-apoptosis gene activation; all of which looks to enrich our understanding and application of this promising use of Maitake D-fraction beyond just immune activation. The authors concluded that “The future is bright for mushrooms as a nutritional supplement...” A statement that, we, at Mushroom Wisdom, are in full agreement.

(*) D-fraction used in this study was prepared by a standardized procedure proprietary developed by Mushroom Wisdom, Inc. (formerly Maitake Products, Inc.), East Rutherford, NJ.

For reference please visit PubMed link: www.ncbi.nlm.nih.gov/pubmed/21480800

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