



CITY OF HOPE'S MUSHROOM RESEARCH



*City of Hope, a leading research, treatment and education institution for cancer, diabetes and other life-threatening illnesses, is uncovering important links between nutrition and cancer. **Among the first to discover the link between mushrooms and decreased breast cancer risk**, Shiuan Chen, Ph.D., director of the Division of Tumor Cell Biology and co-director of the Breast Cancer Program at City of Hope, is now conducting further investigations that could lead to recommendations for prevention protocols and less toxic treatments. Below is an overview of the promising findings thus far.*

<p>Initial Studies 2003</p>	<p>Finding: Discovered the extract of mushrooms suppresses the activity of a protein called aromatase Blocking aromatase is a key way that physicians reduce circulating estrogen levels among postmenopausal patients</p>
<p>Lab Discoveries 2006</p>	<p>Finding: Ingredients in mushrooms can also suppress the effects of another protein in the body called steroid 5 alpha reductase This protein plays important roles in the development of prostate cancer One of the active ingredients was found to be conjugated linoleic acid</p>
<p>Animal Model 2007 - 2008</p>	<p>Finding: Mushrooms suppress the growth of breast cancer cells and prostate cancer cells (in mice that were fed mushrooms) Based on this, humans would probably need to eat 150-200 grams of mushrooms everyday</p>
<p>Human Clinical Trial 2009 - 2010</p>	<p>Goal: Determine the exact dosage of mushrooms necessary for suppression of estrogen production in postmenopausal women and PSA production in men Timing: All data from the clinical trials will be collected by Summer 2010; analysis will then begin</p>
<p>Post Clinical Trial 2011</p>	<p>Next Steps: Conduct additional trials Develop breast cancer and prostate cancer chemopreventive drugs</p>