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Discovering:

GW Researcher Receives Grant to Further Study Cancer Gene

Patricia Berg, PhD, associate professor, Biochemistry and Molecular Biology

Several years ago, Patricia Berg, PhD, associate professor, Biochemistry and Molecular Biology, identified a gene, BP1, that was expressed in 80 percent of women with breast cancer, and discovered a correlation between the expression of BP1 and race. A recent study she conducted concluded that BP1 is associated with the progression of breast cancer and, in some cases, "turns on" quite early in the process.

Just recently, Dr. Berg was awarded a $250,000 grant from the Susan G. Komen Breast Cancer Foundation to continue her examination of racial disparities in breast cancer, focusing on BP1.

The two-year study, "BP1 Expression, Apoptosis and Breast Cancer Aggressiveness in African American Women," will investigate whether activation of BP1 enhances cancer cell survival in the tumors of African American women by inhibiting cell death and whether BP1 positively predicts a shorter survival time. The study will involve the examination of more than 400 archived cases of invasive ductal breast cancer, selected from the University repository in collaboration with noted pathologist Arnold Schwartz, MD, PhD, associate dean for Faculty Policy and Development and professor of Pathology.

Dr. Berg hopes that her further research into BP1 might uncover clues to targeting BP1 in the treatment of breast cancer, particularly the aggressive tumors seen in African American women. If BP1 is directly involved in preventing cell death in tumors, it would be an excellent target for therapy. Because resistance to cell death is associated with resistance to treatment, reducing BP1 may increase sensitivity of a tumor to cancer drugs. If results support the hypothesis that BP1 is one of the genes contributing to the more aggressive nature of breast cancer in African American women, Dr. Berg says future directions will involve the important work of finding a suppressor to "turn off" the BP1 gene and mitigate its effect on tumor cells.