

The Relationship between the Mutation rs3741378 of *SIPA1* Gene and Breast Cancer in Vietnamese Women

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ABSTRACT The product of signal-induced proliferation-associated (*Sipa*) gene is a mitogen induced GTPase activating protein that is specific for Rap 1 and Rap 2 GTPase. It is related to the cell proliferation, differentiation and cell adhesion. The *Sipa1* enzyme may hamper mitogen-induced cell cycle progression when abnormally expressed and to be linked to the metastatic potential via Rap1 GTPase-activating protein, which inducing the cell adhesion. The genetic population study was performed to see the association between SNP rs3741378 of *SIPA1* genes with breast cancer disease in Vietnamese. An ARMS-PCR was designed for screening the allele C and T of SNP rs3741378 in women Vietnamese population with 50 breast cancer patients and 50 healthy persons. This preliminary study showed the association between SNP rs3741378 and the breast cancer in Vietnamese population, with the C allele as the risk allele (P=0.006, OR= 2.843). However, the correlation analysis did not show the association between the mutant genotypes and the disease. As using the small sample size the power of this study for the association is inadequate (46.18%). The estimated sample size to get power at 90% is 136 cases and 136 controls.