24 September 2008
BioPharmica (ASX: BPH) ASX Announcement

Hls5 presented at ComBio 2008 in Canberra

Dr Louise Winteringham is presenting the novel tumour suppressor gene, Hls5 at the Signalling and Cancer symposium on 24 September 2008. Hls5 is down-regulated in breast and ovarian cancer and can regulate transactivation from steroid hormone receptors.

ComBio2008 is a fully integrated meeting incorporating the Annual Conferences of the Australian Society for Biochemistry & Molecular Biology, the Australian Society of Plant Scientists and the Australia and New Zealand Society for Cell and Developmental Biology.

Louise Winteringham, Jean-Philipe Lalonde, Jennifer Beaumont, and Peter Klinken from The Western Australian Institute for Medical Research and The University of Western Australia have researched together in collaboration with BioPharmica Limited.

Abstract on the presentation follows:
Transformation of normal cells into malignant tumour cells depends on progressive acquisition of genetic alterations resulting in either activation of proto-oncogenes or inactivation of tumour suppressor genes. Haemopoietic lineage switch 5 (Hls5) is a novel tumour suppressor gene located on chromosome 8p21, a region associated with a number of cancers including the steroid dependant breast and prostate cancers. The requirement for the steroid hormones estrogen and androgen, respectively, in the development of these cancers is well characterised. Our studies have shown Hls5 mRNA is decreased in the majority of breast cancer cell lines and in a number of breast and ovarian tumours compared to normal tissue. Preliminary data, using the demethylation agent 5-azacytidine, suggest expression of Hls5 in these cancers is regulated by methylation, most likely within the CpG island in the 5' regulatory region. To characterise the role of Hls5 in these cancers we have used a yeast 2-hybrid screen to identify interacting molecules. Two of the interactors identified were T:G mismatch-specific thymine DNA glycosylase and the nuclear co-activator, NcoA-62. Both these molecules are able to potentiate transactivation by the estrogen receptor. We have shown that Hls5 can inhibit the activity of both these molecules *in vitro* and furthermore, Hls5 alone is able to inhibit transactivation from both the estrogen and androgen receptors. These data suggest that Hls5 has a role in down-regulating cellular steroid hormone receptor levels; however, in some cancer cells, reduced Hls5 expression may contribute to the increase in steroid hormone receptor levels required for the development and progression of disease.

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Yours sincerely,

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