



## BioPharmica Limited

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BioPharmica (ASX: BPH) ASX Announcement

### International HLS5 Scientific Publication

The following scientific findings have been accepted for publication by the respected journal "Blood". In this publication the WAIMR research team report their recent important findings concerning the role of HLS5 in controlling gene-regulation and cell differentiation.  
<http://bloodjournal.hematologylibrary.org/>

#### Hls5 regulates erythroid differentiation by modulating GATA-1 activity

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In light of the extraordinary medical implications of stem cell differentiation into tissue-specific cell types, the identification of factors that modulate cell maturation is one of the most prominent topics in current biomedical research. The development of the different blood cell lineages from the hemopoietic stem cells is of particular interest. Research by this group is focused on the regulatory role of the hemopoietic lineage switch genes, HLS5 and HLS7. Both are implicated in the switching of erythroid (immature red cell) to myeloid (white cell) lineages.

Here it is shown that HLS5 impedes erythroid maturation by restricting cell proliferation and inhibiting hemoglobin synthesis through suppression of the action of the critical GATA1 transcription factor. This effect, in conjunction with the already reported influence of HLS7/Mlf1 on erythroid cell morphology, substantiates the co-operative regulatory role of HLS5 and HLS7/Mlf1 in erythroid to myeloid cell lineage switching.

Since the findings indicate that minor changes in HLS5 levels can result in pronounced biological responses there is the potential for modulation of this gene to be of significant clinical relevance.

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Yours sincerely,

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