

Tumour Suppressor Gene HLS5

BioPharmica Limited [ASX:BPH] is working with the University of Western Australia (UWA) and the Western Australian Institute for Medical Research (WAIMR) to develop and validate the novel tumour suppressor gene HLS5 as a biomarker and an attractive cancer target.



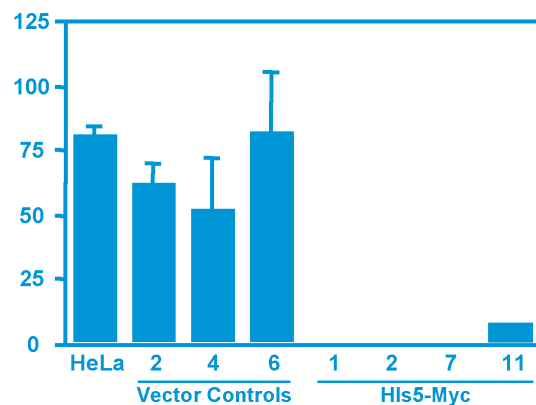
THE UNIVERSITY OF
WESTERN AUSTRALIA



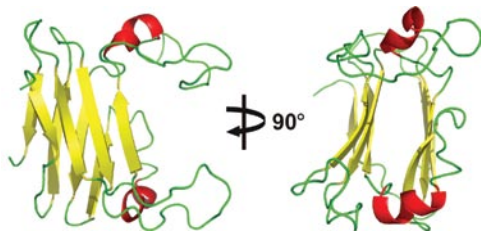
Western Australian
Institute for
Medical Research
(WAIMR)

Highlights

- HLS5 transfected into cancer cells killed and/or slowed the growth of the cancerous cells.
- HLS5-transfected cancer cells injected into nude mice caused decreased tumour burden compared to non-HLS5 transfected cells.
- HLS5 is mapped to chromosome 8p21, a locus associated with various tumour suppressor genes. Furthermore, deletions at this locus are associated with breast, prostate, ovarian, and liver tumours.
- HLS5 mRNA expression appears to be lowered in many cancers, including human breast, liver, and ovarian cancers.
- HLS5 works through several mechanisms of action and pathways to influence / inhibit tumour growth and kill cancerous cells;
 - induces cell cycle arrest in G2/M phase → apoptosis.
 - acts on hormone receptors such as the oestrogen and androgen receptors to affect hormone dependent cancers.
 - involved in ubiquitination and sumoylation.
 - Through HLS5's involvement in sumoylation and ubiquitination, this gene may also play a role in a range of neurodegenerative diseases including Huntington's, Parkinson's, and Alzheimer's disease as well as in other conditions such as polyglutamine disease, HIV infection and diabetes.



HLS5 transfected cancer cells injected into nude mice caused decreased tumour burden compared to non-HLS5 transfected cells.



Tumour Suppressor Gene

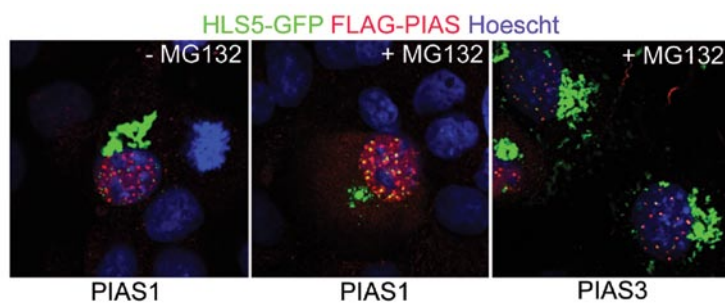
HLS5

Validation, research tools and assays

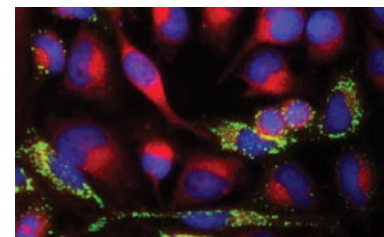
In addition to validating HLS5 as a biomarker and tumour suppressor gene, a number of tools and assays have been developed to enable:

- functional studies of HLS5, including mechanism of action and pathway studies;
- the screening of potential compounds that inhibit, up-regulate and/or activate HLS5; and
- the development of diagnostic and prognostic assays for HLS5 in breast cancer and other cancers.

These tools and assays have been developed by the research team at WAIMR and in collaboration with Molecular Discovery Systems (MDSystems), a wholly owned subsidiary of BioPharmica Limited.



HLS5 (green) and PIAS (red) colocalise at sites of transcriptional control.



HLS5 (green) colocalises with hormone receptors (red).

(image provided by Molecular Discovery Systems)

Opportunity

BioPharmica Limited has developed an extensive patent portfolio around HLS5 as a target and its use in a variety of diseases. BioPharmica has an exclusive license to commercialise the HLS5 patent portfolio and is looking for companies and institutions interested in co-development, collaborations and licensing.

Contact Details

Dr Jenny Tollet
Commercialisation Manager
Tel: +61 8 9328 8366
jenny@biopharmica.com.au

BioPharmica Limited [ASX:BPH]
14 View Street, North Perth
Western Australia 6006
Australia



BioPharmica Limited
www.biopharmica.com.au