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ABSTRACTS



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Technology™ could also be used to isolate enzymes with an optimal level of activity in a controlled manner by using 1,3-PDH as an example. It was assumed that in prokaryotic systems, oxidoreductases are among the first class of enzymes used to degrade a carbon source, therefore the likelihood of discovering a dehydrogenase specific for 1,3-PD was high. A large number of microbes were isolated and 16S RNA sequencing has identified representatives from genera not previously associated with 1,3-PD metabolism. A correlation was found between specific activity and sequential changes in conditions under which the Evolver Technology™ was operating. 1,3-PDH specific activity from crude extract in this preliminary study are comparable and often better than those described in the literature. These findings illustrate that the Evolver Technology™ can be used to discover specific enzymes and that the kinetic behavior of the enzymes can be selected and controlled as well as unique microbial phenotypes.

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F1 Wednesday, May 9, 1:00 PM – 4:00 PM

INFOHaem™ Chip: Development and Clinical Validation of a Molecular Diagnostic Kit in Malaysia

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Presented By:

Prashanth Bagali
 INFOVALLEY Group of Companies

Poster Abstract:

INFOHaem™ Chip is a molecular diagnostic chip developed by integrating knowledge of bioinformatics with that of molecular marker and microarray technologies. Two main objectives of the product are: 1) to manufacture a blood specific microarray chip for different genetic diseases; and 2) to develop corresponding software to measure, analyze, and report expressions and diagnosis of genetic diseases. A database was built consisting of genomics and proteomics data of approximately 70 genetic diseases and 800 genes. Database was curated by bioinformaticians, geneticists, and clinicians. We selected a genetic disease (undisclosed name) controlled by 3–4 major genes and 10–15 mutations of major genes along with 20–22 minor genes. We critically examined and validated disease-specific genes using in-house developed bioinformatics tools. Basic genetic hypotheses such as monogenic, digenic, multiple allelism, polygenic, and pleiotropism were tested, so that inheritance pattern could be well understood to build genetic algorithms (GA) and multiple correlation among disease

symptoms, biochemical, and histopathological findings. We have collaborated with the Faculty of Medicine, University Malaya and University Malaya Medical Centre (Cardiology and Endocrinology Unit) for recruitment of study and control subjects of the disease (undisclosed name) under clinical study. Institutional Ethics Clearance has been obtained. Clinicians and Faculty of University are coordinating the complete clinical part of the product development. They have recruited about 350 study subjects and 150 control subjects representing different ethnic groups of Malaysian population.

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F2 Wednesday, May 9, 1:00 PM – 4:00 PM

Rapid Blood Test for Detecting Ischemic Injury to the Central Nervous System

Ann Comell-Bell
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 Robert Beckman/Lesanne Life Sciences, LLC
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Presented By:

Ann Comell-Bell
 Lesanne Life Sciences, LLC

Poster Abstract:

Lesanne Life Sciences, LLC was formed (10/2006) to develop a procedure for the rapid and accurate diagnosis of CNS ischemia resulting from stroke, transient ischemic attacks (TIAs), lacunar infarcts, traumatic brain injury (TBI), myocardial infarction, spinal cord injuries or other events resulting in interrupted spinal and cranial blood flow. This assay quantifies CNS ischemia through detection of protein kinase Cgamma, a brain-specific enzyme biomarker. PKCgamma in cells is activated immediately in response to ischemia and appears in peripheral blood following breakdown of the BBB. PKCgamma is a definitive CNS marker, never found in circulating peripheral blood if the BBB is intact. PKCgamma can act as a surrogate for quantifying the ischemic event. The more cells that become ischemic the more PKCgamma is released. PKCgamma is elevated even before an infarct or penumbra forms. The level of circulating PKCgamma represents the severity of the ischemic insult itself and elevates prior to the appearance of markers of permanent cell damage and cell death. Our hypothesis is that PKC release is positioned close enough to the ischemic attack to serve as a quantitative surrogate of the event and can be used to monitor a patient's progress. In contrast, other assays that are based on markers from moribund neurons and macroglia may represent unrecoverable damage to the CNS tissue and do not reflect the ischemia-induced initiation of the damage cascades. The PKCgamma assay was effective in detecting ischemic damage in MCAO animal models of stroke within 15 min. following administration of an ischemic insult prior to brain infarct

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F1 Wednesday, May 9, 1:00 PM – 4:00 PM

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Presented By:

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Poster Abstract:

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