

7th International Conference and Expo on

Metabolomics

November 14-16, 2016 Orlando, Florida, USA

iTRAQ-based analysis of complex serum proteome alterations in Indian zebu cattle subjected to heat stress

Khan Farheen Badrealam, Sohan Vir Singh and Ashok Kumar Mohanty
National Dairy Research Institute, India

Heat stress is a major stressor which affects animal's performance substantially and molecular basis coherent with the ability of *Bos Indicus* to survive and adapt to heat stress. Reckoning with these, the present study was planned to examine the complex serum proteome alterations in Indian zebu cattle following heat stress and normothermia applying isobaric Tags for Relative and Absolute Quantification (iTRAQ) proteomics approaches. The data of the present study suggests that out of the total 144 proteins identified, 53 proteins were differentially expressed after 4 h of heat stress (23 proteins up-regulated and 30 proteins down-regulated), whereas 48 (23 proteins up-regulated whereas 25 down-regulated) and 51 (18 proteins up-regulated whereas 33 down-regulated) proteins were differentially expressed after 24 and 48 h of recovery period respectively. Intriguingly, this is the seminal report investigating the differential proteome profile of Sahiwal serum samples in response to heat stress. The identified proteins were subjected to analysis for their prospective involvement in various biological, cellular and molecular processes including thermoregulatory mechanism. The high confidence dataset generated herein may plausibly foster identification of prospective biomarkers related to heat stress in Indian zebu cattle; nonetheless, the findings of the present study significantly advances our understanding of the physiological aspects of heat stress induced responses in Sahiwal cattle.

farheenkbiot@gmail.com

Important advance in targeted therapies in breast cancer

Moumita Chatterjee
Campana Cancer Center, Argentina

It took more than 15 years since the approval of trastuzumab, the first monoclonal antibody created to attack a type of breast cancer tumor cells overexpress the HER2 protein. Since its discovery almost free survival disease progression in those with this particularly aggressive tumor that affects 1 in 5 women diagnosed with breast cancer she tripled. This is the biggest breakthrough in targeted therapy and those patients who really are effective treatments, it can say that he became in those cases where successful treatment is called as individualized medicine. These new treatments, managed to triple the disease-free survival in patients with an aggressive variant of breast cancer. Trastuzumab was the first monoclonal antibody specifically created to attack tumor cells that over-express the HER2 protein, when this protein is produced in excessive amounts, transmits signals to cells to divide, multiply and grow faster normal cells, contributing thus to the onset and progression of cancer. When trastuzumab binds to HER2 it prohibits the proliferation of these cells. Its mechanism activates the immune system of the body and blocks the HER2 signaling pathway to selectively destroy tumor cells. Since it was first authorized in 1998, more than one million three hundred thousand women with HER2-positive tumors have been treated with this drug. Important and worthy news about the new way to manage Trastuzumab. This is currently administered intravenously (IV) but significant scoop is already authorized in Europe since 2015, a subcutaneous formulation (SC). The administration intravenously required about 30-90 minutes being weekly. While the novel form of subcutaneous administration involves an injection current of only five minutes. This allows patients a better quality of life, being more beneficial from the point of hospital view, since it does not require an IV, patients need not be admitted during application, as well as decreases the risk of infections minimum. Given this new form of subcutaneous administration, it allows this much easier and better accepted by patients' parts. The result obtained using subcutaneous Herceptin is that it could be reduced by a greater percentage than 50% the time spent by health personnel to prepare and administer the medication. This new formula SC does not require dose adjustment depending on the body surface of the patient, as the dose is fixed, and it does not require initial loading dose. It is indisputable that all this has a very positive and important impact for patient comfort it provides treatment and increased comfort suffering from breast cancer, thereby promoting improved quality of life and greater acceptance by patients when applicable

dcapdepon@yahoo.com.ar