Piyali Das et al., J Bioanal Biomed 2014, 6:2
http://dx.doi.org/10.4172/1948-593X.S1.014

OMICS Group Conferences
Accelerating Scientific Discovery

3rd International Conference and Exhibition on
Biowaivers, Biologics & Biosimilars

October 27-29, 2014 Hyderabad International Convention Centre, Hyderabad, India

In vivo characterization of snail extract loaded marine biomaterials in bone regeneration

Piyali Das and Samit Kumar Nandi
West Bengal University of Animal and Fishery Sciences, India

The selection of a suitable scaffold is vital for bone tissue regeneration. This study designed to identify and characterize marine chitosan, coral and sponges as potential bioscaffolds (group II-IV) alone and in combination with snail extract (group V-VI) with sham control (group-I) on the *in vivo* bone healing performance in rabbit model. Snail extract was taken from land snail *Achatina fulica* and partial biochemical characterizations were carried out. Porous scaffolds of these three materials were developed including their physico-chemical characterization by XRD, FTIR and scanning electron microscopy (SEM) analysis. Lyophilized snail extract was incorporated within these porous struts through vacuum infiltration technique. Finally, these bioscaffolds were implanted into bone defects in rabbits for up to 90 days keeping empty defect as control. The *in vivo* bone healing were evaluated and compared using chronological radiology, histology, SEM and fluorochrome labeling studies. Based on the radiological, histological, scanning electron microscopy and fluorochrome labeling results, snail extracts loaded samplers promoted excellent osseous tissue formation as compared to bare one and control. Together, these observations suggest that the marine material alone and in combination with snail extract is promising biomaterials for bone repair and bone augmentation.

Biography

Piyali Das has completed her MSc (Microbiology) degree under University of Calcutta in the year 2013 and is currently working as project SRF under the guidance of Dr. Samit K Nandi in a DBT sponsored project at West Bengal University of Animal and Fishery Sciences, Kolkata, India. She has been also selected for the Phd programme from West Bengal State university this year.. She has participated in various national and state level seminars in the course of her study so far and gathered experience and valuable information in various fields related to microbiology, biotechnology and modern biology.

piyalidas.mcb@gmail.com