

Title: Novel radiomitigator for radiation-induced bone loss

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Abstract:

Radiation-induced bone loss can occur with radiotherapy patients, accidental radiation exposure and during long-term spaceflight. Bone loss due to radiation is due to an early increase in oxidative stress, inflammation and bone resorption, resulting in an imbalance in bone remodeling. Furthermore, exposure to high-Linear Energy Transfer (LET) radiation will impair the bone forming progenitors and reduce bone formation. Radiation can be classified as high-LET or low-LET based on the amount of energy released. Dried Plum (DP) diet prevents bone loss in mice exposed to total body irradiation with both low-LET and high-LET radiation. DP prevents the early radiation-induced bone resorption, but furthermore, we show that DP protects the bone forming osteoblast progenitors from high-LET radiation. These results provide insight that DP re-balances the bone remodeling by preventing resorption and protecting the bone formation capacity. This data is important considering that most of the current osteoporosis treatments only block the bone resorption but do not protect bone formation. In addition, DP seems to act on both the oxidative stress and inflammation pathways. Finally, we have preliminary data showing the potential of DP to be radio-protective at a systemic effect and could possibly protect other tissues at risk of total body-irradiation such as skin, brain and heart.

INFORMATION ABOUT CONFERENCE

“Dear Dr. Schreurs,

*In my capacity as the Track Chair of the "Global Biotechnology Congress 2016", fourth in the series, to be held in Boston, USA from August 22nd – 25th, 2016, I would like to invite you to participate and deliver a Session Lecture (lecture duration: 20 minutes) for the track "**Regenerative Medicine**" at this event. For your potential interest to deliver a Session lecture for the track "**Regenerative Medicine**" at GBC 2016, please send your abstract for consideration at GBC.COM”.*

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