

5. Stimulation of its own production thus maintaining ensuing effects: as well as stimulating the production of other inflammatory cytokines, IL-1 also stimulates its own production via a positive feedback loop. IL-1 signalling through the IL-1 receptor activates the transcription factor, nuclear factor-kB (NF-kB), which activates expression of the IL-1 gene leading to further production of IL-1 (Carmona and Prades, 2009). This positive feedback loop amplifies and perpetuates the detrimental downstream effects of IL-1 signalling, including cartilage degradation, subchondral bone remodelling and inflammation (Martel-Pelletier et al., 1999).

As a summary, glucosamine is able to slow down the deterioration of joint health but does not stop nor does it cure. All other drugs used for osteoarthritis does not improve the condition of the treated joint. Therefore, the selected drug for the study to be conducted for assessing the effect of glucosamine on the overall efficacy and safety profile of a drug when concomitantly administered would be diacerein.

Glucosamine, 2-amino-2-deoxyglucose, a natural compound found in healthy cartilage (Wu et al., 2005; Noertjojo et al., 2004). It is an amino monosaccharide found in chitin, glycoproteins and glycosaminoglycans such as hyaluronic acid (Anderson et al., 2004). Aggrecan and other proteoglycans trap water into the matrix of cartilage providing it with the deformable resilience which is necessary for its function. It is administered in tablet or capsule form, usually as glucosamine sulphate, but sometimes as glucosamine hydrochloride. Glucosamine is often taken with chondroitin sulphate.

In the United Kingdom, United States of America and Middle East countries, glucosamine is available as a dietary supplement. It has been evaluated as an effective support for osteoarthritis; as it is a fundamental building block required for the