ABSTRACT

Background: Ectopic calcification can arises from several complicated diseases such as Fibrodysplasia Ossificans Progressiva (FOP). FOP is a rare congenital disorder of progressive and widespread ectopic classification which can extends to skeletal muscles and adjacent connective tissues. A *caALK2* mouse model which resembling FOP condition has been established from previous studies, but the development of ectopic calcification is still inadequate for further research of drug candidates. A suitable and appropriate condition to develop ectopic calcification is needed to promote future studies. **Objective:** To investigate the appropriate condition to develop ectopic calcification in *caALK2* mice for future studies. **Methods:** *caALK2* transgenic mice were generated and obtained from Tokyo, then tested by genotyping to confirm the occurrence of recombination. Ad.Cre and cardiotoxin then injected to the target tibia to induce the ectopic calcification. Further evaluation are done through micro CT imaging, immunohistochemistry and data analysis. **Result:** Cre recombination is successfully occurred and ectopic calcification is successfully developed through the induction of Ad.Cre. **Conclusion:** An inducing factor such as Ad.Cre and an appropriate dose of injection is needed in order to create a suitable condition to develop ectopic calcification.

Keywords: ectopic calcification, *caALK2*, FOP, Ad.Cre