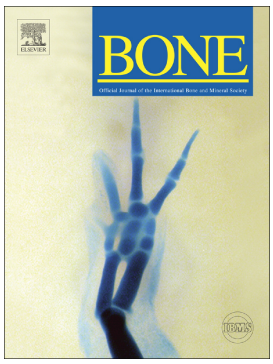

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HINTS ON TRANSCRIPTIONAL CONTROL OF ESSENTIAL PLAYERS IN HETEROTOPIC OSSIFICATION OF FIBRODYSPLASIA OSSIFICANS PROGRESSIVA

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Abstract

Signaling of the Bone Morphogenetic Protein (BMP) pathway is influenced by the level of expression of its components, in particular receptors, intracellular molecules and target genes which largely depends on gene transcription. One peculiar aspect of Fibrodysplasia Ossificans Progressiva (FOP) relates to the cell types in which the genetic mutation exerts its effects, then not only those involved in the heterotopic ossification processes but also others that participate in the inflammatory phases preceding and triggering heterotopic ossification. Such effects are in part detectable as variation in gene expression, which is also variably manifesting in term of time of appearance in different phases of the inflammatory or ossification processes.

Keywords: Fibrodysplasia Ossificans Progressiva (FOP); heterotopic ossification; transcriptional regulation; *ACVR1*/Alk2; BMP; Smad; Activin; Follistatin