

**The exogenous methyl farnesoate does not impact epidermal ecdysteroid signaling in vivo in the fiddler crab, *Uca pugilator***

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Methyl farnesoate (MF) is a crustacean hormone involved in various physiological processes. Because MF can bind to and alter the expression of crustacean retinoid X receptor (RXR), RXR has been proposed as a candidate receptor. This study investigated whether the exogenous MF impacts ecdysteroid signaling in vivo using N-acetyl- $\beta$ -glucosaminidase (NAG) mRNA from epidermal tissue as a biomarker for ecdysteroid signaling. The NAG mRNA from fiddler crabs (*Uca pugilator*) injected with 0, 0.2, 1, 5, and 20 ng/g wet weight of MF was quantified, and an assay of epidermal NAG activity in crabs injected with 0, 20, and 2000 ng/g wet weight of MF was performed. Exogenous MF was found to have no effects on epidermal NAG gene transcription or NAG activity. These results show that MF is not capable of affecting epidermal ecdysteroid signaling, and are not supportive of the notion that MF Signals through the RXR in Crustacea.