A protein related to the luminescence of the earthworm, Microscolex phosphoreus.

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Abstract

The earthworm Microscolex phosphoreus (Dugès, 1837), which was first described with specimens from Jardin des plantes de Montpellier in France, is one of the cosmopolitan luminous species [1]. This worm exudes yellow-greenish glowing mucus (λmax=527 nm) when stimulated mechanically or chemically. Its ecological function and mechanism of the luminescence remain unclear [2]. To clarify these questions, we established culturing method and examined the protein analysis. Protein mass spectrometry and transcriptomic analysis of the chloragogen tissue suggested that a 125 kDa protein is involved in the luminescence reaction.


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