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# 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 ( $\lambda_{\max}=527$  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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**Keywords:** earthworm luciferase annelida

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