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Data Article

Data from proteomic analysis of the skin of Chinese giant salamander (*Andrias davidianus*)

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ABSTRACT

The Chinese giant salamander (*Andrias davidianus*), renowned as a living fossil, is the largest and longest-lived amphibian species in the world. Its skin is rich in collagens, and has developed mucous gland which could secrete a large amount of mucus under the scraping and electric stimulation. The molting is the degraded skin stratum corneum. To establish the functional skin proteome of Chinese giant salamander, two-dimensional gel electrophoresis (2DE) and mass spectrometry (MS) were applied to detect the composition and relative abundance of the proteins in the skin, mucus and molting. The determination of the general proteome in the skin can potentially serve as a foundation for future studies characterizing the skin proteomes from diseased salamander to provide molecular and mechanistic insights into various disease states and potential therapeutic interventions. Data presented here

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are also related to the research article “Proteomic analysis of the skin of Chinese giant salamander (*Andrias davidianus*)” in the Journal of Proteomics [1].

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Specifications table

Subject area	Biology
More specific subject area	Giant salamander skin proteomics
Type of data	Table, excel file
How data was acquired	2-D electrophoresis (GE Healthcare, USA)
Data format	ImageScanner III Labscan (GE Healthcare, USA) MALDI-TOF/MS and Biotoools (Bruker Daltonics, Germany) MASCOT search engine (Matrix Science, London, UK) uniprot database
Experimental factors	Analyzed Skin, mucus and molting samples from Chinese giant salamander were collected and used to systematically characterize the proteome
Experimental features	2-D electrophoresis coupled with MALDI-TOF/MS
Data source location	Xinxiang, Henan Province, China
Data accessibility	Analyzed datasets are directly provided with this article

Value of the data

- The data provide new insight in the aspects of the proteomes in the skin, mucus and the molting of Chinese giant salamander.
- The data gathered after bioinformatics analysis provide the potential physiological functions of the identified proteins.
- The data can potentially serve as a foundation for future studies characterizing the skin proteomes from diseased salamander or from other amphibian species.

1. Data, experimental design, materials and methods

1.1. Animals

Three or four years old male healthy Chinese giant salamanders with body length 60–100 cm and weight about 3 kg, were obtained from a giant salamander breeding base in Wen Quan Zhen, Kaixian Country, Chongqing Municipality, China. The molting was obtained from the breeding pool of Chinese giant salamanders. The mucus was secreted by the dorsal skin of Chinese giant salamanders under the scraping stimulation with a triangle, and was collected in a sterile tube. Subsequently, they were anesthetized and sacrificed by decapitation. The skin tissues were immediately dissected from the giant salamanders, and washed in sterile PBS. The skin, mucus and molting samples were stored in

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