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The glycosaminoglycan chain of decorin plays an important role in AMPK signaling

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Diabetic nephropathy (DN) is one of the major microvascular complications of diabetes. Energy metabolism is altered under diabetic conditions. Decorin is a multifunctional small leucine-rich proteoglycan involved in the autophagy and energetic homeostasis. We investigated the role of decorin and its glycosaminoglycan chain in DN. Both decorin and phosphorylated AMPK were highly expressed in the kidney of an accelerated type 1. DN was induced by streptozotocin in uninephrectomized Wistar rats at week 20. In high glucose cultured HK2 cells, glycosaminoglycan-free decorin, generated by mutating Ser4 of the mature protein core into Ala (DCN-S4A), showed more significant role in promotion of AMPK phosphorylation and LC3 II compared to the decorin proteoglycan. These data provided clues that the glycosaminoglycan chain of decorin has a reducing effect on activation of AMPK signaling pathway in DN.

Biography

Ting Ting Zhao has completed her PhD from University of Chinese Academy of Sciences. She has published 19 papers in international journals.

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