

## Polypodiside Attenuates Inflammation Induced by High Glucose in Mesangial Cells via MAPK/NF- $\kappa$ B Pathway

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**SUMMARY.** Diabetic nephropathy (DN) is a severe microvascular complication of diabetes mellitus. Inflammation plays a crucial role in the pathogenesis of DN. As a natural Nrf2 activator, polypodiside has showed the potential to attenuate DN *in vitro*. To further uncover its anti-inflammatory effects, we have employed mesangial cells cultured in high glucose. The results showed polypodiside reduced the pro-inflammatory cytokines which were activated by high glucose. Then the exploration revealed polypodiside inhibited MAPK/NF- $\kappa$ B pathway to attenuate inflammation. And the anti-inflammatory effects of polypodiside was closely associated with the activation of Nrf2. These results can give more evidences to understand the protective effects of polypodiside against DN and its application in practice.

**RESUMEN.** La nefropatía diabética (ND) es una complicación microvascular grave de la diabetes mellitus. La inflamación juega un papel crucial en la patogenia de la ND. Como activador natural de Nrf2, el polipodiósido ha mostrado potencial para atenuar la DN *in vitro*. Para descubrir aún más sus efectos antiinflamatorios, hemos empleado células mesangiales cultivadas en glucosa alta. Los resultados mostraron que el polipodiósido redujo las citoquinas proinflamatorias que se activaron con la glucosa alta. Luego, la exploración reveló que el polipodiósido inhibía la vía MAPK/NF- $\kappa$ B para atenuar la inflamación. Los efectos antiinflamatorios del polipodiósido estaban estrechamente asociados con la activación de Nrf2. Estos resultados pueden brindar más evidencias para comprender los efectos protectores del polipodiósido contra la ND y su aplicación en la práctica.

**KEY WORDS:** inflammatio, MAPK, mesangial cell, NF- $\kappa$ B, polypodiside.

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