
POSTER PRESENTATIONS

**WENDAN TABLET AND ITS ACTIVE COMPONENT ISOCURCUMENOL
PROTECT AGAINST MYOCARDIAL ISCHEMIA VIA TARGETING ALOX15
AND INHIBITING LIPID PEROXIDATION**

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Wendan Tablet (WDT) is a traditional Chinese herbal compound formulation clinically employed in the management of coronary heart disease (CHD).

This study aimed to elucidate the therapeutic mechanism of WDT in treating CHD and to identify its corresponding active constituents.

The primary components of WDT were identified, and a quantitative analytical method was established for quality control using UHPLC-QTOF-MS. We comprehensively evaluated the cardioprotective effects of WDT against ischemic injury and investigated its role in modulating phospholipid peroxidation of myocardial cells. Potential key molecular targets of WDT were predicted via molecular docking, and these predictions were subsequently validated through biochemical assays and transgenic mouse models.

Mechanistically, WDT significantly improved cardiac function, reduced myocardial pathological damage, and suppressed lipid peroxidation. Specifically, it markedly downregulated the expression of arachidonate 15lipoxygenase (ALOX15), a key enzyme involved in lipid peroxidation. Isocurcumenol was identified as the principal active component in WDT, demonstrating strong binding affinity for ALOX15. It effectively inhibited ALOX15 enzymatic activity and subsequently attenuated lipid peroxidation. While isocurcumenol conferred significant cardioprotection in the context of ALOX15 overexpression, both isocurcumenol and WDT lost their protective effects in ALOX15-deficient models.

This study demonstrates that WDT alleviates myocardial ischemia by inhibiting ALOX15 to reduce lipid peroxidation. We identified isocurcumenol as its key active component, which directly binds to and inhibits ALOX15. These findings establish ALOX15 not only as a crucial mechanistic target but also as a potential biomarker for the cardioprotective application of WDT and isocurcumenol in CHD management.