model in female Kunming (KM) mice. Lipid peroxidation product malondialdehyde (MDA) and inflammatory mediator prostaglandin (PG) E2 were both detected using methods reported in the literature.

Results FSTV-ET exerted analgesic activity with a significant dose-dependent increase in latency in the hot plate test. The percentage inhibition suggested that FSTV-ET exhibited analgesic activity in the central nervous system. Meanwhile, FSTV-ET at 0.16, 0.32, and 0.64 g/kg strongly inhibited the acetic acid-induced writhing response. FSTV-ET also exerted analgesic activity in the peripheral nervous system. Moreover, FSTV-ET demonstrated a significant anti-inflammatory effect against xylene-induced oedema in a dose-dependent manner, and reduced MDA and PGE2 levels.

Conclusions These findings indicate that FSTV-ET can produce anti-inflammatory and analgesic activities in vivo, and the mechanism is likely to be related to inhibiting lipid peroxidation and inflammation.

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23 STUDY ON MiRNAs PREDICTION AND CO-EXPRESSION PATTERNS OF THE HUMAN INTRONIC MiRNAs WITH THEIR HOST GENES

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Objectives MiRNAs are a set of endogenous non-coding RNAs with a length of about 22nt. They regulate the expression of the target mRNAs and are involved in many important biological processes including metabolism, defense against viruses, apoptosis and proliferation. In this paper we focus on two hotspot issues related to miRNAs, namely miRNAs prediction and the co-expression patterns prediction of the intronic miRNAs with their host genes.

Methods Firstly, a new method based on machine learning techniques is proposed to recognise the miRNAs. Couplet-syntax is introduced to depict local structure-sequence of pre-miRNA which is able to represent the most robust and intrinsic features of pre-miRNA. Feature selection algorithms based on filter models are proposed to achieve good comprehensive performance. Secondly, a new method based on multiple features extraction techniques is proposed to recognise the co-expression patterns of the intronic miRNAs with their host genes. The feature vectors were calculated from the genome coordinates data of human miRNAs which includes intronic miRNAs, miRNA-hosting introns, and miRNA-hosting genes. The ensemble features selection algorithm is used to obtain a subset of features with high correlation and stability.

Results The analysis and comparison of multi-group experiments show that we achieved the best features and models to predict miRNAs and the co-expression patterns of the intronic miRNAs with their host genes which are verified with promising results.

Conclusions This study not only provides some effective means for research on miRNAs prediction and co-expression prediction of intronic miRNAs with their host genes, but also gives some solid foundation for future research in this field.

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24 DANGGUI SHAOYAO POWDER IMPROVES DIABETIC NEPHROPATHY WITHOUT ALTERING BLOOD GLUCOSE IN STREPTOZOTOCIN-INDUCED DIABETIC RATS

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Objectives Diabetic nephropathy (DN) is one of the most severe diabetic complications and is becoming a worldwide epidemic, accounting for approximately one-third of all cases of end-stage renal disease. In this study, we investigated its influence on Th1/Th2 cells balance, inflammation and lipid metabolism to assess whether Danggui Shaoyao Powder (DSS) ameliorates DN.

Methods Wistar rats were randomly divided into control group, model group, DSS group and benazepril group. The model group was induced by injection intraperitoneally with streptozotocin after high-calorie foods were given for 1 month. Animals were treated orally with saline, DSS and benazepril daily for 8 weeks. At the end of 8 weeks, blood glucose, 24 hour urinary protein (24 hour UPr), creatinine clearance rate (Ccr), total cholesterol (TC), triglyceride (TG), low-density lipoprotein (LDL), high-density lipoprotein (HDL), serum levels of interferon (IFN)-gamma, tumour necrosis factor (TNF)-alpha, interleukin (IL)−4, and IL-10 were measured. Glomerular morphology was observed by light microscopy.

Results Compared with rats in the control group, rats in the DN group had significantly increased 24 hour UPr, Scr, blood lipids and pro-inflammatory cytokines IFN-gamma and TNF-alpha secreted by Th1 cells. In addition, down-regulation of the proportion of Th2 cells and decrease of the anti-inflammatory cytokines IL-4 and IL-10 secreted by Th2 cells occurred. Compared with the model group, the DSS group had significantly decreased levels of 24 hour UPr, Scr, TC, TG, LDL, IFN-gamma and TNF-alpha, and increased IL-4 and IL-10. The renal pathological changes in the DSS treatment group were ameliorated.

Conclusion This study suggests that DSS could improve renal function in streptozotocin-induced DN model rats. The mechanism may be related to regulating the Th1/Th2 cell balance and improved lipid metabolism in DN rats.

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