



Activity of Gossypol against *Schistosoma japonicum*

FeiFei YANG ¹ #, LiJun SONG ² #, XuRen YIN ²,
Shuang SHEN ², ChuanXin YU ^{1,3} * & LuHong TANG ¹ *

¹ School of Pharmaceutical Science, Jiangnan University, 1800 Lihu Avenue, Wuxi. 214122, P.R. China.

² Key Laboratory on Technology for Disease Prevention and Control, Ministry of Health; Jiangsu Provincial Key laboratory of Parasite Molecular Biology,
Jiangsu Institute of Parasitic Diseases, Wuxi, Jiangsu 214064, P.R. China.

³ Medical School, Jiangnan University, 1800 Lihu Avenue, Wuxi 214122, P.R. China.

SUMMARY. The chemotherapy of schistosomiasis relies on the use of praziquantel (PZQ). However concerns over drug resistance have encouraged the search for new drug leads. Gossypol, a valuable natural product, showed multiple biological properties, including antimalarial, antiparasitic and anticancer activities. The aim of this study was to investigate the *in vitro* antiparasitic effect of gossypol on *Schistosoma japonicum*. The results showed that gossypol killed 100% of juvenile *S. japonicum* at the concentration of 10 μ M *in vitro* in 48 h and killed 100% of adult *S. japonicum* at the concentration of 25 μ M *in vitro* in 48 h. These results indicated that gossypol could serve as a promising lead compound to develop new antischistosomal agents.

RESUMEN. La quimioterapia de la esquistosomiasis se basa en el uso de praziquantel (PZQ). Sin embargo las preocupaciones sobre la resistencia a fármacos han alentado la búsqueda de nuevas potenciales drogas. Gosipol, un producto natural valioso, mostró múltiples propiedades biológicas, incluyendo antipalúdicas, antiparasitarias y anticancerígenas. El objetivo de este estudio fue investigar el efecto antiparasitario *in vitro* de gosipol en *Schistosoma japonicum*. Los resultados mostraron que el gosipol mató a 100% de los individuos juveniles de *S. japonicum* a la concentración de 10 μ M *in vitro* en 48 h y mató a 100% de los adultos de *S. japonicum* a la concentración de 25 μ M *in vitro* en 48 h. Estos resultados indican que gosipol podría servir como un compuesto prometedora para el desarrollo de nuevos agentes esquistosomicidas.

KEY WORDS: antischistosomal activity, *in vitro* study, gossypol, natural product, *Schistosoma japonicum*.

These authors equally contributed to this work.

* Author to correspondence should be addressed. E-mail: chxnyu@163.com tangluhong@msn.com