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**Jilong Shen**

Anhui Medical University, China

## Genotype and virulence of *Toxoplasma gondii* dominantly prevalent in China

*Toxoplasma gondii* is an obligatory intracellular protozoon capable of infecting a wide range of mammalian hosts including humans. It has been found that European and North American strains of the parasite show a clonal population structure with three distinct lineages (types I, II, and III) while strains isolated from animals and humans in South America present a high genetic diversity. The strains with these genotypes differ in virulence and in distinct host response due to the effectors polymorphisms of ROP16 and GRA15. We collected 59 strains of *T. gondii* from stray cats, free-range chicken, and pork in retail meat stores. The PCR-RFLP at 9 loci and microsatellite typing at 15 markers were used for genotyping. Finally, seven genotypes were identified (type I, type II, ToxoDB #9, #203, #205, #213, and #215). We also found that the majority of isolates from both animals and humans (the cancer patients with a long term of chemotherapy) belong to type Chinese 1 (ToxoDB#9), accounting for 74.58% (44/59). Phenotypical examinations indicated a significantly different virulence in mice and parasite proliferation in cultures cells among the isolates with Chinese 1. Additionally, sequencing of effectors ROP16 and GRA15 demonstrated that strains of Chinese 1 with different virulence share the ROP16I/III polymorphism with type I/III and GRA15II with type II. Our results suggest that the genetic markers currently used for genotyping failed to identify the virulence of strains with Chinese 1, and it may have the pathogenesis different from that of the archetypal strains in European and North America.

### Biography

Jilong Shen completed his PhD from Sun Yet-Sen University School of Medicine of China in 1990 and studied as a Visiting Scholar at Teikyo University School of Medicine of Japan and at Case Western Reserve University, School of Medicine of USA, successively. He is the Director of the Key Laboratory of Zoonoses and the Key Laboratory of Pathogen Biology of Anhui province. He has published more than 150 papers and currently works on the genotype-associated pathogenesis of *Toxoplasma gondii*.

[shenjilong53@126.com](mailto:shenjilong53@126.com)

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