

- tion of Th₁ cytokine function accompanies induction of Th₁ responses by a parasitic helminth, *Schistosoma mansoni* J Exp Med 1991; 173 159
- 12 Lianc M. Progress toward the development of vaccine against parasitic disease: A review based on studies performed by participants of the Laveran seminar. Parasite 1994; 1 197- 203
- 13 Warren KS ed. Immunology and Molecular Biology of Parasitic Infections, third edition, New York; Blackwell Scientific Publications, 1993 389- 438
- 14 Ellis JT, *Schistosoma mansoni*: patterns of codon usage and bias Parasitology 1995; 110 53
- 15 Liu SX, Song GC, Xu YX, et al Immunization of mice with recombinant SjGST Induces a pronounced anti-fecundity effect after experimental infection with Chinese *Schistosoma japonicum*. Vaccine 1995; 13 603
- 16 Liu SX, Song GC, Xu YX, et al Anti-fecundity immunity induced in pigs vaccinated with recombinant *Schistosoma japonicum* 26 kDa glutathione-S-transferase Parasite Immunol 1995; 17 335
- 17 Xu CB, Verwaerde C, Grasmasse H, et al *Schistosoma mansoni* 28-kDa glutathione S-transferase and immunity against parasite fecundity and eggs viability. J Immunol 1993; 150 940
- 18 Ramirez B. Symposium on Schistosomiasis, Manila, Philippines, 1993
- 19 Reynolds SR, Dahl CE, Harn DAT and B epitope determination and analysis of multiple antigenic peptides for the *Schistosoma mansoni* experimental vaccine triose-phosphate isomerase J Immunol 1994; 152 193
- 20 Wayne GJ, Becker M, Yang W, et al Cloning, molecular characterization, and function activity of *Schistosoma japonicum* glyceraldehyde-3-phosphate dehydrogenase, a putative vaccine candidate against schistosomiasis japonica Infect Immunol 1993; 61 4716
- 21 Reynolds SR, Shoemaker CB, Harn DA: T and B cell epitope mappings of Sm23, an integral membrane protein of *Schistosoma mansoni* J Immunol 1992; 149 3995
- 22 Merckelbach A, Hasse S, Dell R, et al cDNA sequences of *Schistosoma japonicum* coding for two cathepsin B-like proteins and Sj32 Trop Med Parasitol 1994; 45 193
- 23 Penberton RM, Malaquias LCC, Falcao PL, et al Cell-mediated immunity to schistosomes Trop Geogr Med 1994; 46 247
- 24 James SL, Pearce EJ. The influence of adjuvant on induction of protective immunity by a non-living vaccine against schistosomiasis J Immunol 1988; 140 2753
- 25 Varley CA, Dunne DW, Haverchoft JC. The influence of adjuvant on humoral response to glutathione-S-transferase fusion protein. Parasite Immunol 1992; 14 557
- 26 Bashir M, Bickle Q, Bushara H, et al Evaluation of defined antigen vaccines against *Schistosoma bovis* and *S. japonicum* in bovines Trop Geogr Med 1994; 46 255
- 27 Wynn TA, Reynolds A, Fouad S, et al L-12 boosts cell-mediated and humoral immune responses in mice vaccinated with attenuated cercariae of *S. schistosoma mansoni* Am J Trop Med Hyg 1995; 53 (suppl 2) 117
- 28 Capron A, Riveau G, Grzych JM, et al Development of a vaccine strategy against human and bovine schistosomiasis Trop Geogr Med 1994; 46 242
- 29 Posnett DN, McGrath H, Tam JP, et al A novel method for producing anti-peptide antibodies production of site-specific antibodies to the T cell antigen receptor β -chain J Biol Chem 1988; 263 1719
- 30 Grzych JM, Capron M, Lambert PH, et al An idiotypic vaccine against schistosomiasis Nature 1985; 316 74
- 31 Garcia EG, Rivera PT, Mitchell GF. Effects of induction of induction of anti-embryonation immunity on liver granulomas, spleen weight and portal pressure in mice infected with *Schistosoma japonicum*. Acta Trop (Basel) 1989; 46 93

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一种血吸虫尾蚴染色新方法

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在血吸虫尾蚴染色标本的制作中, 由于缺乏有效的使尾蚴集中固定的方法, 常出现尾蚴流失、断尾或变形。本文采用粘贴剂方法, 将活尾蚴直接挑取, 粘在载玻片上, 然后置福尔马林液内固定、染色, 直到脱水、封片, 全过程中尾蚴不易流失或变形, 给操作带来方便。

材料和方法

1 组织粘贴剂载玻片的制备 将病理组织切片用组织粘贴剂[批号: 90232, 美国产品]均匀涂布于载玻片上备用。

2 尾蚴的粘贴与固定 用大头针挑取尾蚴, 置上述载玻片上, 待干后, 56 烘片 10 min, 使尾蚴紧贴于

载玻片上, 置 5% 福尔马林液中固定 1 h, 水洗 10 min 除去福尔马林, 备染色。

3 染色步骤 用硼砂卡红常规染色法。将上述载玻片置硼砂卡红染色液中 1—4 h, 取出后水洗或 1% 盐酸酒精分色 1 min, 经各级酒精至无水酒精脱水各 1 min, 二甲苯透明后, 直接于载玻片上加中性树脂封片。

本法染色过程简便, 尾蚴利用率高, 封片后可长期保存, 染色效果类同于以往方法。推论本法同样适用于其它小而不易集中的寄生虫幼虫的染色, 以供教学制片应用。

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