

this capacity for surviving to ROS is mediated by detoxifying enzymes like peroxiredoxins.

Methods: The EhCBP30 gene, with homology to peroxiredoxins, was amplified by PCR. The amplified DNA was cloned in the plasmid pRSET, and the His-tagged EhCBP30 recombinant protein was purified. The antioxidant capacity of the protein His::EhCBP30 was studied in MCO assays, and the peroxidase activity (PO) of this protein was also assayed. Mice were immunized (ip) with the protein His::EhCBP, and serum samples were obtained one week after the last immunization. Anti-EhCBP30 antibodies (isotype) was assayed by ELISA, and induced cytokines were evaluated by flow cytometry.

Results: In MCO assays, there is a iron-salt-dependent decomposition of hydrogen peroxide, generating the highly reactive hydroxyl radical that promote oxidative DNA damage (nicks). However, a protein with PO activity will protect DNA against the damaging effect of hydroxyl radicals. When the His::EhCBP30 protein was included in the MCO assays, protection of DNA nicking was clearly detected, suggesting a PO activity of the His::EhCBP30 protein. In the PO activity assays the protein His::EhCBP30 was able to eliminate hydrogen peroxide in a dose dependant reaction. Finally, to investigate whether the EhCBP is immunogenic, mice were immunized (ip) with the protein, and 15 days after the last immunization serum samples were obtained. Results showed that the EhCBP30 protein induces an immunoglobulin immune response with the Igs isotypes IgG2b > IgG1 > IgG2a > IgG3, suggesting a non polarized Th1/Th2 immune response. However, when serum cytokines were examined, only IL-2, IL-6, IL-10 and IL-17 were detected, thus indicating that a Th1 immune response was polarized.

Conclusion: The findings of this study indicated that the EhCBP30 protein has antioxidant activity (peroxiredoxin), and is able to induce a Th1 immune response. Therefore, the EhCBP30 may be a good candidate for further immunoprophylaxis studies.

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Soil-transmitted helminthiasis in rural South West China: Prevalence, intensity and risk factor analysis

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Background: Soil-transmitted helminth infections (STHs) are common across China and carry a significant disease burden, especially in children. Few studies have investigated the local epidemiology of soil-transmitted helminth infections (STHs) in rural China or the risk factors for transmission. The present study compared STH prevalences in Simao and Mengla counties, Yunnan province, China, in collaboration with the Yunnan Institute of Parasitic Diseases.

Methods: Faecal samples were collected from 317 school-aged children and from 94 inhabitants of a single village to determine age-prevalence. The Kato-Katz thick smear

behavioural risk factors for the schoolchildren were collected using questionnaires.

Results: In Simao County the overall STH prevalence was 40.2% (2.7%, 5.4% and 35.7% for ascariasis, trichuriasis and hookworm infection, respectively). STHs were significantly higher in Mengla County, with an overall prevalence of 68.3% (19.0%, 34.6% and 47.3% for ascariasis, trichuriasis and hookworm infection, respectively). According to World Health Organization (WHO) STH intensity guidelines, the majority of infections were "light," but, 6.6% of hookworm infections were "heavy". Multiple logistic regression found that females were less likely to be infected with *Trichuris trichiura* (OR: 0.29, 95% CI: 0.15–0.56) and with hookworms (OR: 0.55, 95% CI: 0.33–0.93) than males. Children 12 years of age or older had increased risk of hookworm infection (OR: 2.9, 95% CI: 1.2–7.1). Children with mothers with educational attainment of secondary school or higher had a protective effect against *T. trichiura* (OR: 0.18, 95% CI: 0.06–0.54) and hookworm (OR: 0.21, 95% CI: 0.09–0.51) infections. The Jinuo ethnicity was most prevalent in Mengla County and had the highest risk of infection with *T. trichiura* (OR: 10.71, 95% CI: 2.78–41.28) and hookworm (OR: 4.64, 95% CI: 1.50–14.30). In the village survey for age prevalence, hookworm was again the most prevalent species (62.8%) with a high prevalence persisting in those 50 years of age and older.

Conclusion: The observed higher prevalences of STHs in Mengla County could be due to differences in cultural and hygiene practices among native ethnic groups. Based on recommended intervention strategies by the WHO, Simao County should opt for schoolbased deworming annually, while Mengla County should implement a similar strategy biannually. In addition, targeted strategies in Mengla County should include the elderly population.

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Hymenolepiasis in institutionalized Romanian children

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Background: Parasitic diseases represent an important public health problem. Digestive parasitosis are characterized by high prevalence and a variety of clinical manifestations, being especially frequent in institutionalized children. The aim of the present study was to investigate the prevalence of intestinal parasitic infections in a Romanian Children Care Unit.

Methods: Stool examinations were performed using the iodine staining for the identification of protozoan cysts and the Willis-Hung method for the identification of helminth eggs. Eosinophil values were determined by differential white blood cell count with May Grunwald Giemsa staining.