

P0204 Sensitive and specific ELISA for the serological diagnosis of *Strongyloides* infections

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Background: The nematode *Strongyloides stercoralis* is the causative agent of strongyloidiasis, which can manifest in humans with dermatological, pulmonary and intestinal symptoms frequently passing into a chronic disease. As stool-based microscopy and culture techniques lack sensitivity, the detection of serum antibodies is regarded as a surrogate for diagnosing *Strongyloides* infections. Here, we evaluated the analytical performance of a novel anti-*Strongyloides* IgG ELISA.

Materials/methods: The Anti-*Strongyloides* ELISA IgG (Euroimmun AG, Lübeck, Germany) is based on antigen prepared from *S. papillosus*. ELISA sensitivity and specificity were evaluated in comparison to the serological reference standard applied at the Institute for Parasitology, University of Bern, Switzerland. The sensitivity panel comprised 17 anti-*Strongyloides* antibody positive sera according to the reference in-house ELISA. The specificity/cross-reactivity panel included 39 control sera classified as negative for anti-*Strongyloides* antibodies or positive for antibodies against other parasites, including samples from patients with other parasitic infections (*Echinococcus*, *Filaria*, *Ascaris*, *Toxocara*, *Trichinella*, *Fasciola*, *Schistosoma*, *Trichuris*, *Amoeba*, *Leishmania*, *Plasmodium*, multi-infection; n=25), cancer patients (n=5) and healthy blood donors (n=9). Borderline results were considered as positive.

Results: The results obtained using the Anti-*Strongyloides* ELISA were in agreement with reference testing in 94.6% (53/56) of all samples. In the sensitivity panel, the Anti-*Strongyloides* ELISA was positive in 16/17 sera, corresponding to a sensitivity of 94.1%. The serum yielding discrepant results was obtained from a patient with multiple infections. Among the control samples, positivity was found in 2/39 cases (one cancer patient and one blood donor), resulting in a specificity of 94.9%.

Conclusions: The Anti-*Strongyloides* ELISA IgG exhibits high accuracy and presents a valuable diagnostic tool.

