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# Soil-transmitted helminth and *Schistosoma mansoni* infections do not evoke cross-reactive antibodies to the *Onchocerca volvulus* peptide epitopes OvMP-1 and OvMP-23.

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The Ov16 IgG4 ELISA or lateral flow test is considered the reference method for *Onchocerca volvulus* epidemiological mapping. Recently, two linear epitopes encoded in OvMP-1 and OvMP-23 peptides were introduced as serological markers, but the observed antibody cross-reactivity in samples originating from *O. volvulus* non-endemic areas required further investigation. In this study, we evaluated these markers in an *Onchocerca* meso-endemic setting in Jimma, Ethiopia. For all individuals (n = 303), the infection status with soil-transmitted helminths and *Schistosoma mansoni* was known. In total, 11 (3.6%) individuals were positive for anti-Ov16 IgG4 antibodies, while 34 (11.2%) and 15 (5.0%) individuals had antibody responses to OvMP-1 and OvMP-23, respectively. Out of the 34 OvMP-1 positive samples, 33 were negative on the Ov16 IgG4 ELISA. Similarly, out of the 15 OvMP-23 positive samples, 14 scored negative on this reference method. Upon further analysis of the "false positive samples" for infection with non-*Onchocerca* helminth infections, they were not significantly correlated to soil-transmitted helminth ($p > 0.05$) or *S. mansoni* infections ($p > 0.05$). This suggests that these individuals are either infected with *O. volvulus* and were not picked up by the Ov16 IgG4 ELISA, or that they have an immune response against other agents that cause cross-reactivity. For OvMP-1, there appeared to be a significant trend towards increased seroprevalence in older individuals. The results of this work demonstrate that both OvMP-1 and OvMP23 do not cross-react with soil-transmitted helminth or *S. mansoni* infections. The discordancy with the Ov16 test requires further investigation in *Onchocerca* endemic populations.