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Highlights

- Soluble mgG-2 variant ($gG_{283-649}$) consisting of the extracellular domain of mgG-2 was constructed
- Expression of recombinant soluble mgG-2 using baculovirus expression system
- Performance of $gG_{283-649}$ in patient sera using bead based indirect ELISA
- No cross-reactivity of $gG_{283-649}$ with patient sera from HSV-1 positive samples

Abstract

Herpes simplex virus type-2 (HSV-2) specific glycoprotein G (gG-2) is widely used as the antigen of choice for serodiagnosis of HSV-2. In order to develop an ELISA for serodetection of HSV-2 IgG in patient sera, the soluble form of the mature gG-2 antigen (mgG-2), gG283-649, was expressed using a baculovirus expression system. gG283-649 contains the complete extracellular domain of mgG-2 including the C-terminal region, which despite homology to gG-1, does not cross-react with HSV-1 antibodies present in HSV-1 positive patient sera. gG283-649 had increased performance compared to a previously described gG-2 fragment and showed high sensitivity and specificity in a method comparison with HerpeSelect 1 & 2 Immunoblot IgG, a commercially available FDA-cleared assay for serodetection of HSV-1 and 2 antibodies. A total of 234 clinical samples consisting of 134 high risk samples, including 45 samples from pregnant subjects, and a panel of 100 mixed diagnosis samples, spanning the measurable