BACKGROUND: Evaluation of the protein osteopontin (OPN) as a potential new marker in comparison to melanoma inhibitory activity (MIA) for screening and detection of metastatic uveal melanoma. METHODS: Plasma levels of 32 patients with uveal melanoma were analyzed for OPN and MIA by enzyme-linked immunosorbent assay (ELISA). Fourteen of these patients had clinically detectable liver metastases. RESULTS: Median plasma concentration of OPN in patients with metastatic disease was 152.01 ng/ml compared to 47.39 ng/ml in patients without clinically detectable metastases (p< 0.001). The difference between the median MIA plasma levels in patients with (13.11 ng/ml) and patients without (5.64 ng/ml) metastatic disease was also statistically significant (p< 0.001). No correlation could be found between MIA or OPN levels and tumor height in patients without clinically detectable metastases. CONCLUSION: The proteins MIA and OPN seem to be promising tumor markers for the metastasis screening in patients with uveal melanoma.