As an alternative for radioimmunoassays a new enzyme immunoassay (EIA) for the determination of 13, 14-dihydro-15-keto PGF $_{2\alpha}$ (PGFM) has been developed. Biocytin was linked to PGFM by the N-hydroxysuccinimide method and the product (biocytinyl-PGFM) purified by reversed phase column chromatography. Biocytinyl-PGFM was used in the EIA as a bridge between the immobilized PGFM-antibody and streptavidin-peroxidase. The absolute sensitivity of the assay was about 160 amol (92% rel. binding) and required only 2 μ l plasma for PGFM estimation within the whole physiological range (0.08–20 pmol/ml). All variabilities were < 14 %. The described assay procedure may be of general applicability for other prostaglandins.