Aim: The goal of our study was to compare the suPAR levels between pulmonary embolism (PE) patients and healthy subjects and also to investigate the value of suPAR in the diagnosis of PE. Material and Method: Thirty patients diagnosed with acute PE using spiral computerized tomographic pulmonary angiography were included in the study. suPAR and D-dimer levels were measured at the time of diagnosis. Twenty-nine age- and sex-matched healthy subjects were chosen for the study. The suPARnostic ELISA Standard Kit (ViroGates A/S, Birkerød, Denmark, Code No. A001) was used for the quantitative determination of suPAR levels in plasma samples. Results: Median (95% CI) suPAR level measured in the PE group was 6.4 (6.4-10.5) ng/mL, compared to 3.3 (2.9-4.2) ng/mL in the control group (P<0.001). suPAR levels were significantly higher in the patients with PE than in controls (P<0.001). Receiver operator characteristic (ROC) curve analysis was found as 0.871 [confidence interval (CI) 0.776-0.965] area under the curve, 83% specificity, and 82% sensitivity at the cut-off of suPAR. Patients with higher suPAR (4.3 ng/ml) had significantly longer hospital stays than patients with lower suPAR (p=0.049). There was a statistically significant positive correlation between D-dimer and suPAR (r=0.530, p=0.004). Discussion: This study suggests that suPAR may be a biomarker with good sensitivity and specificity for diagnosis of PE. However, large prospective studies are required to demonstrate the diagnostic and prognostic significance of suPAR in PE.