Sulfation plays a major role in the metabolism of drugs as well as in detoxification and bioactivation of xenobiotics. Ethnic and interindividual differences in SULT1A1 activity have been already reported, and SULT1A1*2 is known to be associated with decrease in SULT1A1 activity when p-nitrophenol is used as a substrate. However, in Japanese, there has been no report of the distribution of SULT1A1 activity. Tamoxifen (TAM) is metabolized to at least 3 active metabolites. One of them, trans-4-hydroxytamoxifen (OHT), is proposed to be sulfated mainly by SULT1A1. We previously established a method for measuring OHT sulfating activity in platelet lysate. In the present study, we determined the genotype of SULT1A1 by using PCR-RFLP and also the distribution of SULT1A1 activity by using OHT as a substrate in 56 Japanese healthy volunteers. SULT1A1*2 allele frequency was 18.7%, which was similar to the previous report (16.8% in Japanese). OHT sulfating activities in our subjects ranged from 62.9 to 1860 pmol/hr/mg protein. OHT sulfating activity in subjects with *1/*1 (n=38), *1/*2 (n=15) and *2/*2 (n=3) was 365±311 (107-1860), 216±119 (62.9-442) and 114±81.3 (74.5-231) pmol/hr/mg protein (median±S.D.), respectively (Kruskal-Wallis H-test, P<0.01). The difference between *1/*1 and *1/*2, and that between *1/*1 and *2/*2 was significant by Bonferroni-adjusted significance test (P<0.01 and P<0.05, respectively). This observation may have relevance to the interindividual variation in the pharmacologic effect of TAM in Japanese patients with breast cancer.