Effects of astaxanthin derived from H. pluvialis (AX) on human blood rheology were investigated in 20 adult men with a single-blind method. The experimental group was 57.5 ± 9.8 y of age and placebo group was 50.8 ± 13.1 y of age. Blood rheology test which measures whole blood passage time was carried out using heparinized blood of volunteer by a MC-FAN apparatus (microchannel array flow analyzer). After administration of AX 6mg/day for 10days, the values of experimental group were decreased from 52.8 ± 4.9 sec to 47.6 ± 4.2 sec (p < 0.01) and the comparison of the values between the experimental (47.6 ± 4.2 sec) and the placebo (54.2 ± 6.7 sec) groups showed the significant difference (p < 0.05). There were no adverse effects according to the administration of AX 6mg/day for 10days. Informed consent was obtained from each subject. This study complied with the Declaration of Helsinki. (author abst.)