

(Down's syndrome) 700-1000 1
 가
 , Trisomy 21 95% ,
 가 , Simian crease
 가 , 가
 ,
 (amniocentesis),² (chorionic villus
 sampling),^{3,4} (cordocentesis)⁵ 8
 2-3 ,
 . AFP, Dual marker, Triple marker
 가 60% (screening test)
 가 ^{6,7}
 , ,
 Schmorl(1983) (eclampsia)
 (trophoblast) ⁸
 , (lymphocyte), (nucleated red blood
 cell) , ⁹⁻¹¹ 가
 가
 $1/10^5 - 1/10^7$ ^{12,24-25} 가
 (separation), (enrichment)
 sorting(MACS) magnetic activated cell
 cell sorting(FACS) fluorescence activated
¹³⁻¹⁶
 DNA probe (interphase)
 situ hybridization(FISH) fluorescence in
 (aneuploides)
 가
 density gradient triple
 MACS , CD45 CD71
 yield
 GPA-

immuno FISH 21
 (trisomy 21)
 1.
 41 76 8
 20ml
 heparin
 2.
 1) (modified Ganshirt-Ahlert method)
 : PBS(phosphate buffered saline) HBSS
 (Gibco) 1:2
 50ml tube Ficoll-Hostopaque (Sigma) 1077 1107 1119
 gradient 1:2
 10ml 3000rpm 30
 mononuclear
 가 ,
 15ml
 polyethylene tube IX PBS 3-4 washing
 CD45(DAKO)-microbead 10 80 μ l
 20 MACS column
 . column
 (negative selection) IX PBS
 2-3 . 1,200rpm 10 (4°C)
 10⁷ 40 μ l CD71(DAKO)
 , 20 MACS
 column . column
 MACS kit syringe (positive
 selection).
 2) : IX PBS 2-3
 1,000rpm 5
 PBS
 Cytospine (Sandone, Germany)
 40 μ l . 37°C
 20 50mM KCL
 20 KCL 30%
 (3:1 v/v methanol acetic acid) 70% 75mM KCL
 . 5 . 65°C 2
 1
 Kleihauer-Betke