6 6p21.31 HLA

HLA 4.0 Mb

I III II II

HLA

250

HLA I II

HLA

phase ambiguity

HLA

DNA NGS

PCR short-range middle-range

long-range *HLA-A, -B, -C, -DRB1, -DRB3/4/5, -DQA1, -DQB1, -DPA1, -DPB1* 11 3′

long-range DNA Super high resolution Single molecule-Sequence Based Typing; SS-SBT SS-SBT

NGS

5861 082-257-1611 (6532)