

NON-INVASIVE PRENATAL PATERNITY TESTING USING NEXT GENERATION SEQUENCING AND BIOINFORMATICS BASED ANALYSIS

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Prenatal paternity testing has been available for several decades using chorionic villus sampling or amniotic fluid collection by amniocentesis. Both of these procedures have a small risk of miscarriage to the developing fetus (1). The discovery that cell-free fetal DNA is present in the blood of pregnant women specific to the current pregnancy (2) offers the opportunity to develop a safer test for the determination of paternity prenatally. Here we describe the use of a set of SNPs interrogated by next generation sequencing combined with a version of the Parental Support algorithm developed by the Natera Corporation to determine paternity prenatally and outline the validation performed.

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2. Lo, YM, Corbetta, N, Chamberlain, PF, et al, Presence of fetal DNA in maternal plasma and serum. *Lancet* 1997; 350; 485-487