

Prenatal Paternity

The paternity of an unborn child can be determined utilizing the same laboratory methods used in conventional paternity testing. Prenatal DNA from an unborn child is collected and compared to DNA from the mother and the alleged father, whose DNA is collected using conventional buccal swab techniques. The prenatal DNA can be collected by a physician utilizing one of two techniques, amniocentesis or chorionic villus sampling (CVS). The type of sample collected will depend on the stage of pregnancy. CVS is typically performed between the 10th and 12th weeks of pregnancy, while amniotic samples are collected between 12 and 21 weeks.

Prenatal Sample Collection

Amniocentesis is an invasive procedure that involves inserting a needle into the mother's abdomen to withdraw a small amount of amniotic fluid from the amniotic sac which surrounds the developing fetus. This procedure can lead to damage or loss of the baby in up to 1% of cases. As a result, it is recommended that patients wait until the baby is born, unless they are already undergoing this procedure for medical reasons.

In general, a 10 ml sample of amniotic fluid is requested. Samples can be collected in sterile non-preserved vials. Samples collected prior to 18 weeks gestation may contain insufficient fetal DNA for analysis.

Chorionic villus sampling involves inserting a catheter through the cervix and removing portions of the chorionic villi. Chorionic villi are microscopic finger-like projections that emerge from the chorionic membrane and eventually form the placenta. The cells in the chorionic villi are of fetal origin, and thus have the same genetic composition as the baby. This procedure can lead to damage or loss of the baby. As a result, it is recommended that patients wait until the baby is born, unless they are already undergoing this procedure for medical reasons. Samples should be shipped frozen on ice to the laboratory via overnight courier.

Newborn Sample Collection

Unlike older methods, a DNA paternity test can be conducted on individuals at any age, including newborns. Samples collected at the time of delivery are typically done using umbilical cord blood obtained at the time of delivery. This procedure involves the collection of the child's blood from the umbilical cord at birth. Samples can be collected in lavender top tubes containing EDTA. If a sample is collected after the birthing process, buccal swabs can be used.

Setting the Standard for Quality DNA Identification



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