- 额外染色体的存在可以导致严重的先天性身心残缺和发育问题。
- 检测染色体三体综合症之诊断检验如羊膜穿刺术和绒毛取样术都是侵入性和有可能导致流产的风险。
- 您现在可在怀孕10个星期或以上时选择非侵入性的NICC®检验以避免流产的风险。

NICC®是如何检测染色体异常？

- 在怀孕期间，游离胎儿的DNA会通过胎盘里的血管进入母亲的血液(请参考图一)。
- NICC®检验只须要10ml母亲的血液样本。从这血液样本，胎儿的基因将会被提取然后引用新一代测序方式(NGS)来加以分析。

NICC®能筛查些什么？

染色体三体综合症：	唐氏综合症 Trisomy 21 爱德华综合症 Trisomy 18 巴陶氏综合症 Trisomy 13 Trisomy 9 Trisomy 16 Trisomy 22
染色体微缺失症：	1p36 2q33.1 16p12.2 第二型狄喬治综合症 雅各布森综合症 猫叫综合症 (5p) 遺傳性唇顎裂综合症 普瑞德威利综合症/安格曼综合症
性别染色体异常：	特纳氏综合症 (XO) 克氏综合症 (XXY) X三体综合症 (XXX) 超Y综合症 (XYY)
性别：	男(XY) 女(XX)

注意：
- 双胞胎怀孕结果只限于唐氏综合症；爱德华综合症与巴陶氏综合症。
- 只要捐赠者/收卵者没有任何已知的染色体异常的条件下，NICC®检验也可以为辅助怀孕的妇女进行检验。

谁应该考虑NICC®？

- 希望提前了解胎儿健康状况的孕妇。
- 年龄偏高的妇女(35岁或以上）。
- 个人或家庭有生理缺陷胎儿的家史。
- 曾怀有三体综合症孩子的孕妇。
- 母体血清筛检出现阳性结果。

NICC®之优势

无风险　　准确　　简单

如何解读NICC®检验结果？

风险	说明
低	• 胎儿拥有所测试之染色体异常的可能性偏低 • 建议为胎儿进行常规检查以监测胎儿之发育
高	• 胎儿受影响的风险增加 • 进一步的诊断测试可确认高风险结果

- 作为一个筛查性检验，NICC®测试会预测出您的宝宝是否有染色体异常的风险。
- 您的医生会根据结果向您推荐下一步行动。
- 此检验之结果并不能排除所检测的染色体拥有：
  - 其它异常的可能性
  - 其它遗传性疾病或并发症
  - 胎儿或怀孕期显现任何其他症状
- 胎儿性别预测应通过诊断性检验来断定。

请咨询您的医生以获取更多资料。

Reference:
1.Gregg et al. (2016). Noninvasive prenatal screening for fetal aneuploidy, 2016 update: a position statement of the American College of Medical Genetics and Genomics. *Genet Med.,18*(10), 1056-65.

1300-88-1DNA (1362)　DNA.LAB　dna-laboratories.com

DNA Laboratories Sdn Bhd (736763-T)
Block Plasma, UKM-MTDC Technology Centre, Universiti Kebangsaan Malaysia, 43650 Bangi, Selangor, Malaysia. Email: info@dna-laboratories.com

DNA LAB®
a PerkinElmer company

Safe for Baby, Peace of Mind for Mommy

NICC®

Non-Invasive ChromosomesCheck

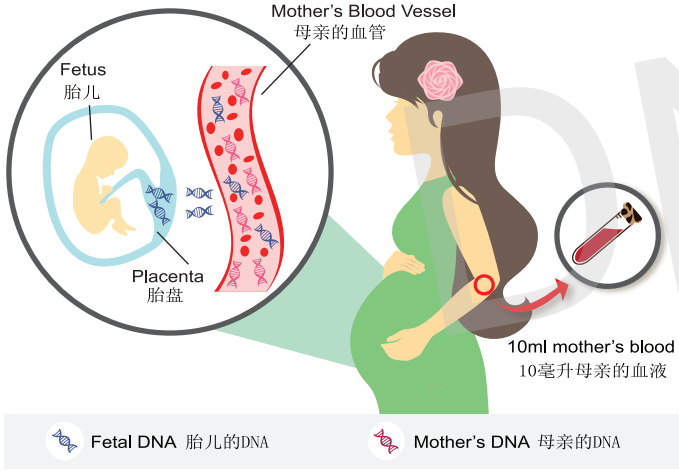
Simple, safe and highly accurate Non-Invasive Prenatal Test (NIPT)

简单，安全以及准确率极高的非侵入性产前检验。

Chromosomal Abnormalities: Trisomy

- A normal cell contains 46 chromosomes arranged in 23 pairs.
- A trisomy is a disorder characterised by having additional chromosome. Having an extra copy of the paired chromosomes will cause abnormal developments such as Trisomy 21 or also known as Down Syndrome.
- Trisomies can cause severe congenital physical disability and developmental problems.
- The risk of having a child with chromosomal abnormalities such as Down Syndrome, Edwards Syndrome and Patau Syndrome increases with mother's age.
- Diagnostic tests for trisomies detection such as amniocentesis and chorionic villus sampling (CVS) are invasive and impose a risk of miscarriage to the pregnancy.
- You can now avoid this risk with NICC® test that can be done any time after 10 weeks of pregnancy.

How does NICC® work?



Picture 1: Cell free fetal DNA in mother's blood.
图1：母亲血液中的游离胎儿DNA。

- During pregnancy, cell free fetal DNA released from placenta into the mother's blood vessel (Picture 1).
- Using only mother's blood, NICC® detects the baby's DNA and measures the risk of chromosomal abnormalities using **Next-Generation Sequencing (NGS)** method.

What does NICC® screen for?

TRISOMIES	Down Syndrome (Trisomy 21) Edwards Syndrome (Trisomy 18) Patau Syndrome (Trisomy 13) Trisomy 9 Trisomy 16 Trisomy 22	MICRODELETION SYNDROMES	1p36 2q33.1 16p12.2 DiGeorge Syndrome 2 Jacobsen Syndrome Cri-du-chat Syndrome (5p) Van der Woude Syndrome Prader-Willi/Angelman Syndrome
SEX CHROMOSOMES ANEUPLOIDY	Turner Syndrome (XO) Klinefelter Syndrome (XXY) Triple-X Syndrome (XXX) Jacob's Syndrome (XYY)	GENDER	Male (XY) Female (XX)

Notes:
- For Twin Pregnancy, NICC® can only screen for Trisomies 21, 18, and 13.
- NICC® is also suitable for Assisted Pregnancy such as IVF, surrogate and donor egg pregnancies; provided that the surrogate/donor does not have any known chromosomal abnormalities as per the knowledge of the clinician.

American College of Medical Genetics and Genomics (ACMG), recommends:
Informing all pregnant women that NIPT/NIPS (Non-invasive prenatal screening) is the most sensitive and reliable option for traditionally screened aneuploidies involving chromosome 13, 18 and 21[1].

Who should consider NICC®?

- Any pregnant women who is anxious to have early information about her baby's health.
- Women with advanced maternal age (35 years and above).
- Personal or family history of birth defect.
- Previous birth of a child with a birth defect.
- Positive serum screening test.

Advantages of NICC®

What does NICC® tell you?

Risks	Indications
Low	• Likelihood of the baby being affected with the tested condition is low • Routine follow-ups should be performed to monitor the baby's growth
High	• Baby has an increased risk of being affected • Further diagnostic test is recommended to confirm High Risk results

- Your doctor would recommend to you the next course of action depending on the NICC® results.
- The result of this test also does not eliminate the possibility of:
  - *Other abnormalities of the tested chromosomes,*
  - *Other genetic disorders,*
  - *Other complications in the fetus or pregnancy.*
- Gender prediction should be confirmed with diagnostic testing.

Please consult your doctor for more information

染色体异常：染色体三体综合症

- 一般人体的细胞通常拥有46个或23对染色体。
- 染色体三体综合症（例如唐氏综合症）是以额外的染色体为特征的染色体病症。
- 随着孕妇的年龄增长，孩童患有染色体异常（例如：唐氏综合症，爱德华综合症和巴陶氏综合症）的风险也会增高。