

Mygenia® Hereditary Risk Assessment

Kids' Panel - ADHD and ASD

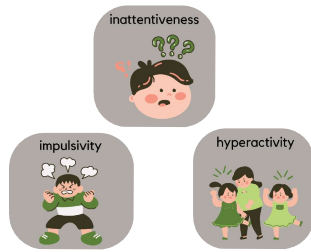
- Whole Genome Sequencing
- 200+ related genes screening
- focus on your child's health and growth
- Early detection for a better treatment



PROFESSIONAL | COMPREHENSIVE | ACCURATE

Understand the health risk of your kids for a better management

If your children have the following symptoms :



Disease gene screening for your kid

- Understand the health risk
- Prevention and earlier treatment



- Kids can't describe their discomfort, parents might miss their best treatment time.
- The diseases might have lifelong adverse effects.
- Genetic testings can provide the best understanding the health risk assessment for your child.

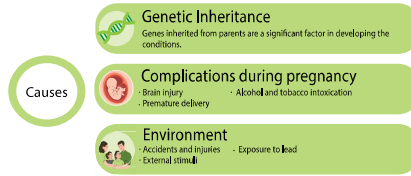
If your kid has been diagnosed with ADHD or ASD, genetic tests maybe able to identify the causes of the related problems for a better management and treatment plan.

Attention Deficit Hyperactivity Disorder

**ADHD** is one of the most common neurodevelopmental disorders in childhood. **6%** of children in Hong Kong have been diagnosed with ADHD

Gender ratio  
**3 boys : 1 girl**

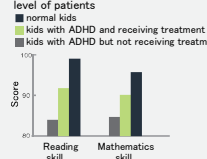
According to scientific statistics, **80%** of ADHD cases have genetic origins. Risk of male child for ADHD is 3 times more than female child.



**80%** of their symptoms continue till teenager  
**60%** of their symptoms continue into adulthood



The effect of medicine to the IQ level of patients



Shaw, D. S., Frick, P. J., & McGee, R. M. (2003). Genetic influences on children's attention deficit/hyperactivity disorder: A twin study. Journal of Child Psychology and Psychiatry, 44(11), 1111-1121.  
Lerner, C., & Frick, P. J. (2005). The prevalence of comorbid attention deficit/hyperactivity disorder among children with attention deficit/hyperactivity disorder. Journal of Abnormal Child Psychology, 33(1), 1-10.  
Faraone, S. V., Biederman, J., & Friedman, R. D. (2000). Attention deficit hyperactivity disorder: A review of the current state of the science. Journal of the American Academy of Child and Adolescent Psychiatry, 39(11), 1105-1117.

- The severity of the child's symptoms depends on the familial conditions and the treatments received.

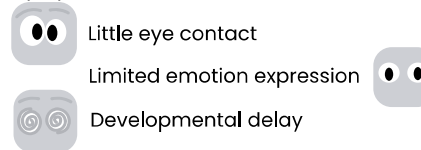
- The earlier the treatment, the better outcome.

- If you found out that the problem is associated with genetics, you can formulate an appropriate treatment management plan, and lower the future impact.

Autism Spectrum Disorder

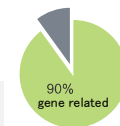
**ASD** is a neurological and developmental disorder that affects how people interact with others, communicate, learn and behave. **1:147** Prevalence rate among children 25,000 Hong Kong children below 15 are diagnosed with ASD

Symptoms :

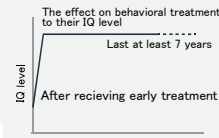


Other than genetic factors, environmental factors are also important in the development of ASD. Such factors are:

- Having a sibling with ASD
- Having older parents
- Having certain genetic conditions (such as Down syndrome or Fragile X syndrome)



- According to scientific research, 90% ASD cases have genetic origins
- Children with ASD are usually diagnosed before 3 years old, the main symptoms include weak communication skill, limited facial and gesture language, weak social skill, lack of interest.
- Early behavioral treatment can increase the cognitive ability of ASD patients' IQ level.



Based on a cohort study, early behavioral treatment for a three-year-old kid can improve the IQ level by **30** marks and the level can last for **7** years.

- Inform doctor earlier for a more appropriate treatment and increase cognitive ability

Pangenia Lifesciences Professional, Reliable

**SIMPLE**  
Only a buccal swab is required to complete the test

**QUALITY ASSURANCE**  
One of the biggest molecular diagnostics companies in Hong Kong with more than 17 years genetic testing experience

**COMPREHENSIVE**  
Using WGS (Whole Genome Sequencing) to screen more than 200 genes that may lead to ADHD or ASD

**ACCURATE**  
Testing with Next Generation Sequencing (NGS) assure 99.9% accuracy

TESTING CODE	DISEASE	SAMPLE REQUIRED	DURATION
RKA	ADHD ASD AS	1 buccal swab	6 weeks



Need to test for once in a life time, don't hesitate, and miss the best treatment window

Mygenia® 遺傳性健康風險評估

兒童健康組合 - 過度活躍及自閉症

- 全基因組定序
- 篩查 200+ 條相關基因
- 為您關注孩子的健康成長
- 及早發現，給予治療



專業 | 全面 | 精確

了解孩子健康風險 採取相應措施

如果你的孩子有以下病徵:

專注力弱

行為衝動

過度活躍

為您的孩子篩查疾病基因

- ! 提示您孩子潛在疾病風險
- 🕒 及早預防或治療疾病

- 孩子無法表達自己的不適，家長錯過最佳治療時機
- 兒童遺傳病影響可以很深遠，甚至一生
- 透過基因測試，可以充分了解孩子的健康狀況

如果你孩子已經確定有過度活躍症或自閉症，你更加應該進行基因檢測去確認是否攜帶相關基因問題，有助了解成因及提供治療方案

過度活躍症

ADHD 是兒童最常見的神經發育障礙之一。

6% 香港兒童被診斷患有 ADHD

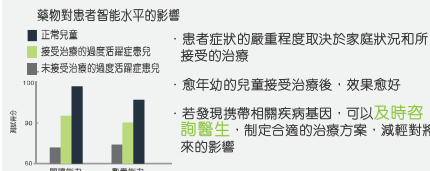
男女比例 3 : 1

研究顯示，80% 過度活躍症案例與基因有關 男生患上 ADHD 的風險比女生多三倍

**原因**

- 基因遺傳**：父母遺傳因素是新生嬰兒發展相關徵狀的重要因素
- 妊娠併發症**：腦部受損、酗酒或吸煙、早產
- 環境因素**：事故和受傷、接觸鉛、外界刺激

80% 患兒的症狀持續到青少年  
65% 患兒的症狀持續到成年期



Rowe, D., Lichtenstein, P., & Faraone, S. V. (2010). Genetic Treatment in Children with Attention-Deficit/Hyperactivity Disorder: A Systematic Review. Journal of Clinical Endocrinology and Metabolism, 101(1), 1-10.  
Larsen, M., Chang, Z., & Lichtenstein, P. (2010). The Heritability of Clinically Diagnosed Attention-Deficit/Hyperactivity Disorder: A Twin Study. Psychological Medicine, 40(12), 1921-1927.  
Duncan, G., & Duncan, T. (2008). Introduction to the Special Issue on Genetic Deficits in Attention-Deficit/Hyperactivity Disorder. Journal of Abnormal Psychology, 117(1), 1-10.  
http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2849494/

自閉症

ASD 是一種神經發育障礙。患者或會出現社交互動障礙，語言發展障礙，溝通障礙。

1:147 約每147名兒童有一位患有 ASD

徵狀:

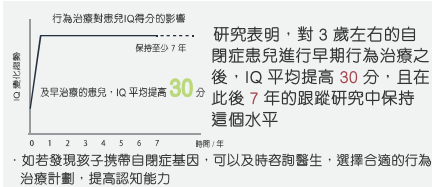
- 甚少眼神接觸
- 欠缺情感表達
- 發展遲緩

研究顯示 ASD 的成因主要受基因與環境因素影響,包括:

- 患有 ASD 的兄弟姐妹
- 父母年邁
- 患有某類遺傳性疾 (如唐氏綜合症或脆性X病)

90% 基因相關

- 科學研究顯示 90% 自閉症案例與基因有關
- 自閉症通常在 3 歲前被發現，主要病徵包括溝通能力弱，面部和肢體語言異常，社交能力弱，興趣單一
- 早期的行為治療可以提高自閉症患兒的認知能力，且長期保持相對高的智力水平



新亞生命，專業保障

- 簡單** 只需 1 支口腔棉棒即可完成檢測
- 品質** 香港最大的分子診斷公司之一，超過 17 年基因檢測經驗，品質保證
- 全面** 利用全基因組定序篩查 200+ 種有機會導致過度活躍或自閉症之基因
- 精確** 新一代基因 NGS 排序技術 提高測試準確率高達 99.9%

測試代碼	檢測疾病	所需樣本	所需時間
RKA	過度活躍症 自閉症 阿氏保加症	1 支口腔拭子	6 週

一生人只需檢測一次，愛護您的子女。別猶豫，錯失黃金治療時機