FOR PHYSICIANS

Nurture Genomics Fact Sheet

What is Nurture?

Nurture's screening service provides medical services to seemingly healthy babies and children to identify those at an increased risk for an actionable genetic condition early in life to allow for proactive medical management.

Here is what's included:

- Whole genome sequencing for expertly curated, targeted analysis of over 400 genes associated with actionable pediatric-onset conditions.
- An at-home sample collection using a gentle and non-invasive cheek swab.
- Easy-to-interpret test results include clear, evidence based insights and recommendations.
- Genetic counseling before and after testing.
- Peer-to-peer consults between Nurture genetic counselors and primary clinicians.
- Recommendations for local specialists (as needed).
- Access to the child's whole genome for reanalysis (as needed).

Who is Nurture For?

Nurture is suitable for any family that wants to screen their healthy newborns and children for genetic risk factors for pediatric-onset conditions. (See our complete gene list on page 3.)

Nurture's panel has been curated to include genes which cause conditions that manifest in early childhood. While newborns and infants are expected to receive the greatest benefit, Nurture's service is open to anyone under the age of 18.

Nurture is designed to be used in addition to routine state newborn screening. Nurture is not suitable for indication-based testing.

Why Screen using Nurture?

With rapid advances in science, there are now hundreds of actionable, childhood-onset conditions where early intervention can have a meaningful impact on patient outcomes. While state newborn screen programs have expanded, states currently only screen between 31 and 77 conditions. Among patients who are not identified through these state programs, the diagnostic odyssey takes an average of five years or more.

Nurture is working to expand on the life changing impact that state newborn screening has had by giving parents and primary clinicians a roadmap to over 400 conditions, ensuring patients with actionable genetic conditions are provided every opportunity for the best health outcomes.

How are Parents and Providers Supported?

Nurture's clinical team helps caregivers and providers navigate their genomic journey from beginning to end. Parents have access to our medical team to get questions answered so they can make an informed decision about testing. Our service includes optional telehealth services to explain test results, clarify next steps, and connect them with medical specialists, as appropriate. Pediatricians receive screening results directly and in the event of a positive result, information about the condition and recommended next steps for further evaluation and care. Primary clinicians always have access to Nurture's genetic counselors and rare disease specialists to support them throughout their patient's journey.

How is Nurture ordered?

Parents place orders directly for Nurture's screening service on our website at **nurturegenomics.com.** Our physicians review and authorize these orders before sequencing begins. Please note: Insurance does not typically cover genomic screening of apparently healthy children.

Specifications

Test: Whole Genome Sequencing (WGS)	**Specimen Type:** Buccal/Cheek
Coverage: 90%+ at ≥20x (mean ≥30x)	**Turnaround Time:** ~4-6 Weeks
Report: Pathogenic and Likely Pathogenic Variants in Targeted Gene List	**Analysis:** Broad Clinical Labs of MIT and Harvard, a CLIA/CAP Genetics Lab

Data Security:

Genomic data is stored by our partner Broad Clinical Labs. Broad is experienced with handling large volumes of sensitive patient data. They have completed sequencing on half a million whole genome samples and counting. The systems used to host genomic data at the Broad meet the highest rigorous information security standards to achieve compliance with industry-accepted general security and privacy frameworks.

Key Test Limitations:

- Genetic screening cannot identify all possible health conditions a child may develop in the future.
- Some health conditions are not genetic, and some conditions may not be detected by the selected test(s).
- Variants of uncertain significance (VUS) will not be reported. Variant classifications are updated over time such that variant calls are only accurate at time of release.
- Technical limitations may prevent accurate detection of some genetic results.
- In some cases, additional testing to confirm the results may be recommended.

List of Genes included in Nurture Genomics' Screening Panel for Actionable, Childhood-Onset Conditions

AAAS
ABCC6
ABCC8
ABCD1
ABCD4
ACAD8
ACAD9
ACADM
ACADVL
ACAT1
ADA
ADA2
ADAMTS13
AGL
AGPAT2
AICDA
AK2
AKR1D1
ALAS2
ALDH5A1
ALDOB
ALG14
ALG2
ALPL
AP3B1
APC
APOB
AQP2
ARG1
ARSA
ARSB
ASL
ASS1
ATP6V0A4
ATP6V1B1
ATP7A
ATP7B
AUH
AVPR2
BCKDHA
BCKDHB
BCKDK
BLNK
BRIP1
BSCL2
BSND
BTD
BTK
CA2
CA5A
CACNA1D
CARD11
CASQ2
CBS
CD27
CD40
CD40LG
CD70
CD79A
CD79B
CFTR
CHAT
CHRNA1
CIITA
CLCNKB
COL3A1
COQ2
COQ4
COQ5
COQ6
COQ7
COQ8A
COQ8B
COQ9
CORO1A
CP
CPS1
CPT1A
CPT2
CSF3R
CTNS
CYBA
CYBB
CYBC1
CYP11A1
CYP11B1
CYP11B2
CYP17A1
CYP21A2
CYP27A1
CYP27B1
CYP2R1
CYP7B1
DCLRE1C
DDC
DGAT1
DHCR7
DHFR
DICER1
DKC1
DLAT
DLD
DMD
DNAJC21
DOCK2
DOCK8
DOK7
DPAGT1
ECHS1
EFL1
ELANE
ENPP1
ERCC4
ETFDH
F13A1
F13B
F9
FAH
FANCA
FANCB
FANCC
FANCD2
FANCE
FANCF
FANCG
FANCI
FANCL
FBP1
FECH
FERMT3
FGA
FGB
FGG
FLAD1
FOLR1
FOXN1
FOXP3
G6PC
G6PC3
G6PD
GAA
GALC
GALE
GALK1
GALM
GALNS
GALT
GAMT
GATA1
GATA6
GATM
GBA
GCDH
GCK
GFI1
GFPT1
GGCX
GH1
GHR
GHRHR
GLA
GLUD1
GRHPR
GUSB
HADHA
HADHB
HAX1
HBB
HESX1
HGSNAT
HLCS
HMBS
HMGCL
HNF1A
HNF1B
HNF4A
HOGA1
HOXA11
HPD
HSD11B2
HSD3B2
HSD3B7
IDS
IDUA
IGF1
IKBKB
IKZF1
IL21
IL2RA
IRAK4
ITGB2
ITK
IVD
JAGN1
KCNJ1
KCNJ11
KCNJ5
KCNQ2
LAMTOR2
LDLR
LDLRAP1
LEP
LHX3
LHX4
LIG4
LIPA
LMBRD1
LMNA
LPL
LRBA
LYST
MAD2L2
MAGED2
MAGT1
MAN2B1
MC2R
MCCC1
MCCC2
MCEE
MECOM
MECP2
MLYCD
MMAA
MMAB
MMACHC
MMADHC
MMUT
MOCS1
MPI
MPL
MRAP
MTHFD1
MTHFR
MTR
MTRR
MTTP
MYD88
MYSM1
NAGLU
NAGS
NBN
NCF1
NCF2
NCF4
NEUROG3
NFKB2
NLRC4
NNT
NPC1
NPC2
NR5A1
OAT
OTC
OXCT1
PAH
PALB2
PCCA
PCCB
PCSK9
PDHA1
PDHB
PDHX
PDP1
PDSS1
PDSS2
PGM1
PGM3
PHEX
PHKA2
PHKB
PHKG2
PIK3R1
PKD1
PKHD1
PKLR
PLPBP
PMM2
PNP
PNPO
POMC
POU1F1
PRDX1
PRF1
PRKDC
PROP1
PTCH1
PTF1A
PTS
PYGL
QDPR
RAB27A
RAD51C
RAG2
RB1
RET
RFWD3
RFX5
RFXANK
RFXAP
RNPC3
RPE65
RPL11
RPL15
RPL18
RPL26
RPL27
RPL35
RPL35A
RPL5
RPS10
RPS15A
RPS17
RPS19
RPS24
RPS26
RPS27
RPS28
RPS29
RPS7
RTEL1
RYR2
SAMD9
SAMD9L
SBDS
SFTPC
SGPL1
SH2D1A
SLC12A1
SLC12A3
SLC16A1
SLC19A1
SLC19A2
SLC19A3
SLC22A5
SLC25A13
SLC25A15
SLC25A19
SLC25A20
SLC26A3
SLC2A1
SLC30A10
SLC34A3
SLC35A2
SLC35C1
SLC37A4
SLC39A14
SLC39A4
SLC39A8
SLC46A1
SLC4A1
SLC4A4
SLC52A2
SLC52A3
SLC5A1
SLC5A6
SLC6A8
SLC7A7
SLC9A3
SLX4
SMAD3
SMN1
SMPD1
SNX10
SOX3
SP110
SPR
SRP54
STAR
STAT5B
STK4
STX11
STXBP2
SUFU
TAFAZZIN
TAT
TBX19
TCF3
TCIRG1
TCN2
TERC
TGFBR1
TGFBR2
TH
TINF2
TK2
TMEM165
TNFRSF11A
TNFRSF13B
TP53
TPK1
TPP1
TRDN
TRMU
TRNT1
TRPM6
TSR2
TTC7A
TTPA
UBE2T
UMPS
UNC13D
UNG
VDR
VKORC1
VPS45
WAS
WDR1
WDR72
WFS1
WIPF1
WT1
XIAP
ZAP70