sema4	Please place green 123456-2-X	collection kit ere.	LESTING REQUISITION <u>AS:</u> 1428 Madison Ave., Rm AB2-25, New York, NY 1002 Phone: 800-298-6470 / Fax: 212-241-013 Tax ID# 47-5349024/ CLIA# 33D20975
Please fill out all the hig	hlighted fields. Failure to do s	o may result in delayed test	ing and delivery of results.
PATIENT INFO	ORMATION	ORDERING PH	YSICIAN INFORMATION
Sema4 will use this information to contact the patient via autom	natic email, SMS, and/or phone regarding payment, testing	NAME	GENETIC COUNSELOR
status, and online results access. By submitting this requisition, be contacted by Sema4 by these means (email address must be	I confirm that I have obtained the patient's authorization to e specific to patient listed on form).	ADDDECC	
PATIENT EMAIL ADDRESS	PATIENT MOBILE/PRIMARY NUMBER	ADDRESS	REQUIRED
LAST NAME	FIRST NAME MI	REQUIRED	TELEPHONE
			ΓΔΧ
PARTNER / SPOUSE LAST NAME	PARTNER / SPOUSE FIRST NAME	PHYSICIAN SIGNATURE OF CONSENT (REQUIRE has been informed of the benefits, risks, and limitations of	ED): I certify that this patient (and/or their legal guardian, as necessar
CLIENT MRN F	PARTNER / SPOUSE DATE OF BIRTH	I have obtained a signed informed consent from this pat laws and regulations, including N.Y. Civil Biohts Law Sec	ient or their legal guardian for this testing in accordance with applicabl tion 79-L. and will retain this consent in the patient's medical record.
ADDRESS		SIGNATURE	DATE MM / DD / YYYY
REQUIRED	REQUIRED	INDICATI	ONS FOR TESTING
	DRMATION	ICD10 Dx CODE(S) (Required) 009.511 Advanced Maternal Age, First Trimester	Image: Description of the second s
POLICYHOLDER LAST NAME POLICYHOLDER FIR:	Pay/No insurance ST NAME POLICYHOLDER DOB	009.512 Advanced Maternal Age, Second Trimester N96 Recurrent pregnancy loss	r □ N46 Male infertility □ N97 Female infertility
REQUIRED REQUI	RED MM / DD / YYYY	Z82.7 Family history of congenital malformations,	Z31.430 Encounter of female for testing for genetic
INSURANCE CARRIER INSURANCE ID REQUIRED REQUI	RED REQUIRED	Z84.81 Family history of carrier of genetic disease	Z31.440 Encounter of male for testing for genetic
BILLING ADDRESS REQUI	RED	Screening of mother	OISEASE Carrier for procreative management 002.89 Other abnormal products of conception
SECONDARY INSURANCE YES NO	GROUP NO.	COLLECTION DATE // / # OF BLOOD TUE SPECIMEN TYPE: (Please contact laboratory for altern	BES SENT: YELLOW PURPLE BCT GREEN
Pre-Authorization #· Please include a conv of all insurance nanenwork		Maternal: Peripheral Blood	Saliva Other
ASSIGNMENT AND RELEASE: I hereby authorize my insurance benefi	its be paid directly to the provider and I understand that I am	Paternal: UPeripheral Blood Fetal: Amniotic Fluid	└──Saliva └──Other] Chorionic Villi POC Other
financially responsible for uncovered services. I also authorize the r ing inquiries, please call 800-298-6470, Option 3.	release of any information required to process the claim. Bill-	PREGNANCY HISTORY: Gestational Age:Wee	ksDays <i>or</i> EDD: / (Required for fetal samples.
SIGNATURE	DATE MM / DD / YYYY	Pregnancy conceived: IVF I Egg donor/gestation	nal carrier Age of genetic mother (at time of retrieval):
	LABORATORY TE	ST(S) ORDERED	
Test Selection (Required)			
Parental Carrier Screening		Infertility/Pregnancy Loss	
Patient ancestry:Pre	eferred Language:	Lest for Microdeletions of Y Chromosome (male) Cystic Fibrosis with <i>CFTR</i> Intron 9 PolyT (male)	□ I hrombophilia lest (2 variants below) □ F2 - c.*97G>A □ F5 - c.1601G>A (p.Arg534Gln)
listory of BMT or recent blood transfusion in the last 4 we	eeks? YES NO		☐ <i>MTHFR</i> - c.665C>T (p.Ala222Val) add-on
s the patient or their partner pregnant? s the patient currently using birth control medication?		Cytogenetics and Cytogenomics	
Previous carrier screening?	□ YES □ NO		iotia fluid) 💦 Additional Call Cultura 🗌 Hald 🗌 Gray
amily History of Par	rtner Carrier of	Includes reflex to array if no growth for POC s	pecimens Mosaicism study
Expanded Carrier Screen (283 genes)	ked Supplemental Panel (21 genes)	□ Reflex to array if normal chromosomes (selec	ct option below)
Standard Pan-ethnic Panel (4 genes) High Frequency Pan-ethnic Panel (11 genes)	e Gene Variant(s)	For prenatal specimens, please submit maternal	nparative Genomic Hybridization (aCGH) 180K + SNP blood for Maternal Cell Contamination (MCC) For all specimen:
□ ECS 39 (39 genes) □ Test 0	only for AR disorders partner screened positive for - hold	please include blood (1 EDTA purple top, 1 Sodium h	neparin green top) from parents of the proband/pregnancy for arra
Comprehensive Jewish Carrier Screen	le pending partner results (mark on reverse side or list	Prenatal Chromosomal Microarray (lower re	esolution)
(101 genes) Ashkenazi Jewish Disorders (47+17 genes)	re-analysis of ECS 281 + enhancements included in	High Resolution Chromosomal Microarray	prenatal/postnatal/POC
Sephardi-Mizrahi Jewish Disorders ECS 2 (27, 17, gappes)	283. Previous test order date://	molar pregnancy analysis and MCC studies with	h submission of maternal blood or saliva sample.
		Parental array followup	Norma
	Specimen Required:	Prodand SEMA4 Lad ID:	Name: DUB:
PAINOIAINA BY prenatal screen	Two 10 ML Whole Blood BCT Streck Tubes	FLUORESCENT in situ HYBRIDIZATION (FI	SH)
PANORAMA PRENATAL PANEL (Screening chromosom	ranorama is a trauemark or Natera, IIIC. nes 13, 18, 21, X & Y, Triploidy, and 22o11.2 deletion syndrome)		Prader-Willi/Angelman (15g11.2)
PANORAMA EXTENDED PANEL (Screening chromoson	nes 13, 18, 21, X & Y, Triploidy, 22q11.2 deletion syndrome,	22q deletion/DiGeorge syndrome (22q11.2) CHARGE syndrome (8c12.1, c12.2)	Rubenstein-Taybi syndrome (16p13.3) Smith Maganis syndrome (17o11.2)
1p36 deletion syndrome, Cri-du-chat syndrome, Angelman synd	drome, and Prader-Willi syndrome)	Cri-du-chat syndrome (5p15.2)	Solos syndrome (5q35)
urdering Physician:	Fax #:	🗀 Kaliman syndrome (Xp22.3)	STS deficiency (Xp22.3)

Urdering Physician:		Fax #:		
Gestational Age:	Maternal Weight:	Height:		
Was an egg donor or surrogate used Is this a multiple gestation pregnanc Are you submitting a father sample? The presence of a father sample det	? y? creases the possibility of no re	esults	□ Y □ Y □ Y	□ N □ N □ N
Do you want the sex of the fetus incl Do you wish to opt out for 22011.2 I Is this a Z34.80 Pregnancy Status?	luded in this report? Del?		□ Y □ Y □ Y	□ N □ N □ N
ICD10 Dx CODE(s) □ 009.511 □ 009.512 □ □ 028.3 □ Z31.438 □	009.521 009.522 0ther:]Z13.79 🗌 028	.1	

Limitations: As this assay is a screening test and not diagnostic, false positive and false negatives can occur. Positive results need diagnostic confirmation by alternative testing methods. Negative results do not fully exclude the diagnosis of any of the syndromes or the possibility of other chromosomal abnormalities or birth defects. Potential sources of inaccurate results include, but are not limited to, mosaicism, low fetal fraction, limitations of current diagnostic techniques, or misidentification of samples. Results should be interpreted by a clinician in the context of clinical and familial data, and the patient should receive genetic counseling.

 Maternal Cell Contamination 0ther:

☐ Williams syndrome (7q11.23) ☐ Wolf-Hirschhorn syndrome (4µ

FISH other: _

Wolf-Hirschhorn syndrome (4p16.3)

reflex to sequencing if negative	
Limb Defects Next Gen Sequencing Panel (7 genes)	
Noonan Syndrome Next Gen Sequencing Panel (19 genes)	
□ Single gene/Diagnostic testing	

Gene:_

SRY (Yp11.3)

GFR3 Hotspot Panel

Langer-Giedion syndrome (8q23.3-q24.11) Miller-Dieker syndrome (17p13.3)

Prenatal Diagnostic Testing

□ Targeted testing: Maternal variant: _____ Paternal variant: _____ Biochemical testing: □ Tay-Sachs enzyme analysis □ Sandhoff enzyme analysis

Maternal blood is required for all prenatal specimens for maternal cell contamination.

• If patient/partner was NOT tested at Sema4, parental bloods are required (5-10mL EDTA) to confirm the variant in-house. Please also provide a copy of any previous results.

• Please contact the laboratory for all prenatal molecular/biochemical testing

 \square Abetalipoproteinemia $\blacklozenge ullet ullet$ Corticosterone Methyloxidase Deficiency 🔶 🔳 🔻 🗌 Achromatopsia 🔻 🗌 Cystic Fibrosis 🕽 🛦 🔶 🔳 🕾 🛡 Cystinosis 🔶 🔳 🔻 Acrodermatitis Enteropathica Acute Infantile Liver Failure 🔶 🔳 🛡 D-Bifunctional Protein Deficiency Acyl-CoA Oxidase I Deficiency Deafness, Autosomal Recessive 77 ♦ ● ▼ Adenosine Deaminase Deficiency 🔻 Duchenne Muscular Dystrophy / Adrenoleukodystrophy, X-Linked **A**lean Adrenoleukodystrophy, X-Linked **A**lean Alean Becker Muscular Dystrophy 🔺 🕸 🗢 🔳 🔻 Dyskeratosis Congenita (RTEL1-Related) 🔶 🛡 Alpha-Mannosidosis Dystrophic Epidermolysis Bullosa 🔻 Ehlers-Danlos Syndrome, Type VIIC 🔶 🛡 🔻 🗌 Alpha-Thalassemia 🛦 🕾 🔶 🔳 🔻 Ellis-van Creveld Syndrome (EVC-Related) 🔻 Alpha-Thalassemia Mental Retardation Syndrome Alport Syndrome (COL4A3-Related) ♦ ● ▼ Emery-Dreifuss Myopathy 1 Enhanced S-Cone Syndrome + • V Alport Syndrome (COL4A4-Related) Alport Syndrome (COL4A5-Related) Ethylmalonic Encephalopathy Fabry Disease Alstrom Syndrome Andermann Syndrome 🔻 Factor IX Deficiency Factor XI Deficiency 🔶 🛡 Argininosuccinic Aciduria 🔻 Familial Autosomal Recessive Hypercholesterolemia ♦ Aromatase Deficiency Arthrogryposis, Mental Retardation, and Seizures 🔶 🛡 Eamilial Dysautonomia 🔶 👁 🛪 🔻 Familial Hypercholesterolemia Asparagine Synthetase Deficiency 🔶 🔳 🛡 🔲 Familial Hyperinsulinism (ABCC8-Related) 🔶 👁 💌 Aspartylglycosaminuria 🔻 Ataxia With Isolated Vitamin E Deficiency Familial Hyperinsulinism (KCNJ11-Related) 🔻 Ataxia-Telangiectasia 🔶 🔳 🛡 Familial Mediterranean Fever 🔶 🖿 🔻 Autosomal Recessive Spastic Ataxia of 🔲 Fanconi Anemia, Group A 🔶 🔳 🔻 Charlevoix-Saguenay 🔻 🗌 Fanconi Anemia, Group C 🔶 👁 👁 🔻 Bardet-Biedl Syndrome (BBS10-Belated) 🗌 Fanconi Anemia, Group G 🔻 Bardet-Biedl Syndrome (BBS12-Related) 🗌 Fragile X Syndrome 🕨 🛦 🔶 🔳 🕾 🛡 Bardet-Biedl Syndrome (BBS1-Related) ▼ Bardet-Biedl Syndrome (BBS2-Related) ◆ ● ▼ Fumarase Deficiency **V** Galactokinase Deficiency 🔻 Bare Lymphocyte Syndrome, Type II Galactosemia 🔶 👁 💌 Bartter Syndrome, Type 4A 🗌 Gaucher Disease 🔶 🖶 🖲 Bernard-Soulier Syndrome, Type A1 Gitelman Syndrome 🔻 Bernard-Soulier Syndrome, Type C Glutaric Acidemia, Type I 🔻 3-Beta-Hydroxysteroid Dehydrogenase Type II Deficiency Glutaric Acidemia, Type IIa Beta-Ketothiolase Deficiency Glutaric Acidemia, Type IIc 🔻 🔄 Beta-Globin-Related Hemoglobinopathies 🔺 🕈 🔳 👁 🕸 🔻 Glycine Encephalopathy (AMT-Related) Bilateral Frontoparietal Polymicrogyria Glycine Encephalopathy (GLDC-Related) Biotinidase Deficiency 🔻 🗌 Glycogen Storage Disease, Type la 🔶 🖷 🔻 🗌 Bloom Syndrome 🔶 🖷 🔻 Glycogen Storage Disease, Type Ib 🗌 Canavan Disease 🔶 🖷 🔻 Glycogen Storage Disease, Type II ♦ ● ■ ▼ Carbamoylphosphate Synthetase I Deficiency Glycogen Storage Disease, Type III ♦ ■ ▼ Carnitine Palmitoyltransferase IA Deficiency Glycogen Storage Disease, Type IV / Carnitine Palmitoyltransferase II Deficiency 🔶 🛡 Adult Polyglucosan Body Disease 🔶 🛡 🔻 Carpenter Syndrome Glycogen Storage Disease, Type V 🔶 🔳 🛡 Cartilage-Hair Hypoplasia 🔻 🗌 Glycogen Storage Disease, Type VII 🔶 🛡 🔻 Cerebral Creatine Deficiency Syndrome 1 GRACILE Syndrome and Other BCS1L-Related Disorders V Cerebral Creatine Deficiency Syndrome 2 Cerebrotendinous Xanthomatosis 🔶 🔳 🛡 Hemochromatosis, Type 2A Hemochromatosis, Type 3 Charcot-Marie-Tooth Disease, Type 4D Hereditary Fructose Intolerance V Charcot-Marie-Tooth Disease, Type 5 / Hereditary Spastic Paraparesis 49 🔶 🔳 🛡 Arts syndrome Charcot-Marie-Tooth Disease, X-Linked Hermansky-Pudlak Syndrome, Type 1 🔻 Choreoacanthocytosis 🔶 🛡 Hermansky-Pudlak Syndrome, Type 3 � ● ▼ Choroideremia HMG-CoA Lyase Deficiency Chronic Granulomatous Disease (CYBA-related) 🔶 🔳 🛡 Holocarboxylase Synthetase Deficiency Chronic Granulomatous Disease (CYBB-related) Homocystinuria (CBS-Related) 🔻 Citrin Deficiency Homocystinuria due to MTHFR Deficiency 🔶 🔳 🛡 Citrullinemia, Type 1 🕸 Homocystinuria, cbIE Type Cohen Syndrome Hydrolethalus Syndrome 🔻 Combined Malonic and Methylmalonic Aciduria 🔻 Hyperornithinemia-Hyperammonemia-Homocitrullinuria Syndrome Combined Oxidative Phosphorylation Hypohidrotic Ectodermal Dysplasia 1 Deficiency 1 Combined Oxidative Phosphorylation 🗌 Hypophosphatasia 🔻 Deficiency 3 🔻 Inclusion Body Myopathy 2 � 🔳 🛡 Combined Pituitary Hormone Deficiency 2 🔻 ☐ Infantile Cerebral and Cerebellar Atrophy ◆ ■ ▼ Combined Pituitary Hormone Deficiency 3 📃 Isovaleric Acidemia 👳 Combined SAP Deficiency 🗌 Joubert Syndrome 2 🔶 👁 🖲 🔻 Congenital Adrenal Hyperplasia due to Joubert Syndrome 7 / Meckel Syndrome 5 / 7-Alpha-Hydroxylase Deficiency COACH Syndrome Congenital Adrenal Hyperplasia due to Junctional Epidermolysis Bullosa 21-Alpha-Hydroxylase Deficiency 🔶 🔳 (LAMA3-Related) 🗌 Congenital Amegakaryocytic Thrombocytopenia 🔶 🛡 Junctional Epidermolysis Bullosa Congenital Disorder of Glycosylation, Type Ia 🔺 🗢 😤 🔳 🛡 (LAMB3-Related) Junctional Epidermolysis Bullosa Congenital Disorder of Glycosylation, Type Ib ☐ Congenital Disorder of Glycosylation, Type Ic
 ☐ Congenital Insensitivity to Pain with Anhidrosis ◆ ■ ▼ (LAMC2-Related) Krabbe Disease 🔻 Lamellar Ichthyosis, Type 1 🔻 Congenital Myasthenic Syndrome Leber Congenital Amaurosis 10 and (CHRNE-Related) Other CEP290-Related Ciliopathies 🔻 Congenital Myasthenic Syndrome Leber Congenital Amaurosis 13 (RAPSN-Related) Congenital Neutropenia (HAX1-Related) Congenital Neutropenia (VPS45-Related) Leber Congenital Amaurosis 5 Corneal Dystrophy and Perceptive Deafness

Expanded Carrier Screen Panel includes: Leber Congenital Amaurosis 8 / Retinitis Pigmentosa 12 / Pigmented Paravenous Chorioretinal Atrophy Leigh Syndrome, French-Canadian Type 🔻 Lethal Congenital Contracture Syndrome 1 / Lethal Arthrogryposis with Anterior Horn Cell Disease 🔻 Leukoencephalopathy with Vanishing White Matter Limb-Girdle Muscular Dystrophy, Type 2A Limb-Girdle Muscular Dystrophy, Type 2B 🔶 🔳 🛡 Limb-Girdle Muscular Dystrophy, Type 2C Limb-Girdle Muscular Dystrophy, Type 2D Limb-Girdle Muscular Dystrophy, Type 2E Limb-Girdle Muscular Dystrophy, Type 21 Lipoamide Dehydrogenase Deficiency 🔶 👁 🔻 Lipoid Adrenal Hyperplasia Lipoprotein Lipase Deficiency Long-Chain 3-Hydroxyacyl-CoA Dehydrogenase Deficiency Lysinuric Protein Intolerance Maple Syrup Urine Disease, Type 1a 🕸 🛡 🗌 Maple Syrup Urine Disease, Type 1b 🔶 🖶 🔻 Meckel-Gruber syndrome 1 / Bardet-Biedl Syndrome 13 V Medium Chain Acyl-CoA Dehydrogenase Deficiency Megalencephalic Leukoencephalopathy with Subcortical Cysts • • • Menkes Disease Metachromatic Leukodystrophy 🔶 🔳 🔻 3-Methylcrotonyl-CoA Carboxylase Deficiency: (MCCC1-Related) 3-Methylcrotonyl-CoA Carboxylase Deficiency: (MCCC2-Related) 3-Methylglutaconic Aciduria, Type III / Optic Atrophy 3, with Cataract 🔶 🔳 🛡 Methylmalonic Acidemia (MMAA-Related) Methylmalonic Acidemia (MMAB-Related) Methylmalonic Acidemia (MUT-Related) Methylmalonic Aciduria and Homocystinuria, Cobalamin C Type 💠 Methylmalonic Aciduria and Homocystinuria, Cobalamin D Type 🗌 Microphthalmia / Anophthalmia 🗢 🔳 🔻 Mitochondrial Complex I Deficiency (ACAD9-Related) Mitochondrial Complex I Deficiency (NDUFAF5-Related) ◆ ● ▼ Mitochondrial Complex I Deficiency (NDUFS6-Related) Mitochondrial DNA Depletion Syndrome 6 / Navaio Neurohepatopathy Mitochondrial Myopathy and Sideroblastic Anemia 1 🔶 🔳 🛡 Mucolipidosis II / IIIA 🔻 Mucolipidosis III Gamma Mucolipidosis IV 🔶 🕾 🔻 Mucopolysaccharidosis Type I 🕸 Mucopolysaccharidosis Type II Mucopolysaccharidosis Type IIIA Mucopolysaccharidosis Type IIIB Mucopolysaccharidosis Type IIIC Mucopolysaccharidosis Type IIID Mucopolysaccharidosis Type IVb / GM1 Gangliosidosis 🔻 Mucopolysaccharidosis type VI Mucopolysaccharidosis type IX Multiple Sulfatase Deficiency 🔶 🛡 Muscle-Eye-Brain Disease and Other POMGNT1-Related Congenital Muscular Dystrophy-Dystroglycanopathies 🔻 Myoneurogastrointestinal Encephalopathy Myotubular Myopathy 1 N-Acetylglutamate Synthase Deficiency Nemaline Myopathy 2 🔶 👁 🔻 Nephrogenic Diabetes Insipidus, Type II Nephrotic Syndrome (NPHS1-Related) / Congenital Finnish Nephrosis 🔻 Nephrotic Syndrome (NPHS2-Related) / Steroid-Resistant Nephrotic Syndrome Neuronal Ceroid-Lipofuscinosis (CLN3-Related) 🕾 Neuronal Ceroid-Lipofuscinosis (CLN5-Related) 🔻 Neuronal Ceroid-Lipofuscinosis (CLN6-Related) Neuronal Ceroid-Lipofuscinosis (CLN8-Related) Neuronal Ceroid-Lipofuscinosis (MFSD8-Related) Neuronal Ceroid-Lipofuscinosis (PPT1-Related) 🛡 🗌 Leber Congenital Amaurosis 2 / Retinitis Pigmentosa 20 🔶 🔳 💌 🗌 Neuronal Ceroid-Lipofuscinosis (TPP1-Related) 🛡 🗌 Niemann-Pick Disease A/B (SMPD1-Related) 🔶 👁 💌

Niemann-Pick Disease, Type C (NPC1-Related)

COMPLETE AND SUBMIT ALL PAGES TO LABORATORY

Niemann-Pick Disease, Type C (NPC2-Related) Nijmegen Breakage Syndrome Non-Syndromic Hearing Loss (GJB2-Related) 🔶 🛡 Odonto-Onycho-Dermal Dysplasia / Schopf-Schulz-Passarge Syndrome Omenn Syndrome (BAG2-Belated) Omenn Syndrome / Severe Combined Immunodeficiency, Athabaskan-Type Ornithine Aminotransferase Deficiency Ornithine Transcarbomylase Deficiency Osteopetrosis 1 🔶 🛡 Pendred Syndrome Phenylalanine Hydroxylase Deficiency 🔺 🔶 🔳 🕸 🛡 3-Phosphoglycerate Dehydrogenase Deficiency $\blacklozenge ullet
abla$ Polycystic Kidney Disease, Autosomal Recessive 🔶 👁 💌 Polyglandular Autoimmune Syndrome, Type 1 🔶 🔳 🔻 Pontocerebellar Hypoplasia, Type 1A 🔶 🛡 Pontocerebellar Hypoplasia, Type 6 🔶 🔳 🛡 Primary Carnitine Deficiency 🔻 Primary Ciliary Dyskinesia (DNAH5-Related) 🔶 🛡 🔻 Primary Ciliary Dyskinesia (DNAI1-Related) 🔶 🛡 🔻 Primary Ciliary Dyskinesia (DNAI2-related) Primary Hyperoxaluria, Type 1 Primary Hyperoxaluria, Type 2 Primary Hyperoxaluria, Type 3 � • V Progressive Cerebello-Cerebral Atrophy I Progressive Familial Intrahepatic Cholestasis, Type 2 Propionic Acidemia (PCCA-Related) Propionic Acidemia (PCCB-Related) Pycnodysostosis Pyruvate Dehydrogenase E1-Alpha Deficiency Pyruvate Dehydrogenase E1-Beta Deficiency 6-Pyruvoyl-Tetrahydropterin Synthase Deficiency Renal Tubular Acidosis and Deafness 🔶 🔳 🛡 🗌 Retinitis Pigmentosa 25 🔶 🔳 🛡 Retinitis Pigmentosa 26 🔶 🔳 🔻 🗌 Retinitis Pigmentosa 28 🔶 🔳 🔻 Retinitis Pigmentosa 59 🔶 🛡 Rhizomelic Chondrodysplasia Punctata, Type 1 🚸 Rhizomelic Chondrodysplasia Punctata, Type 3 Roberts Syndrome Salla Disease 🔻 Sandhoff Disease 🔻 Schimke Immunoosseous Dysplasia Segawa Syndrome Sjogren-Larsson Syndrome Smith-Lemli-Opitz Syndrome 🕽 🛦 🔶 🔳 🕸 🔻 Spinal Muscular Atrophy (includes Enhanced SMA Testing) 🕨 🛦 🔶 🔳 🕸 🔻 Spondylothoracic Dysostosis Steel Syndrome Stuve-Wiedemann Syndrome Sulfate Transporter-Related Osteochondrodysplasia V Tay-Sachs Disease 🔶 🔳 🕾 🛡 🗌 Tyrosinemia, Type I 🔶 🖷 🔻 Usher Syndrome, Type IB 🔻 Usher Syndrome, Type IC V Usher Syndrome, Type ID 🔻 🗌 Usher Syndrome, Type IF 🔶 👁 포 🛡 Usher Syndrome, Type IIA 🔶 🔳 🔻 🗌 Usher Syndrome, Type III 🔶 👁 🖲 🛡 Very Long Chain Acyl-CoA Dehydrogenase Deficiency 🔻 Walker-Warburg Syndrome and Other FKTN-Related Dystrophies 🔶 👁 🖲 Wilson Disease 🔶 🔳 🔻 🔲 Wolman Disease / Cholesteryl Ester Storage Disease 🔶 🔳 🛡 X-Linked Juvenile Retinoschisis X-Linked Severe Combined Immunodeficiency Zellweger Syndrome Spectrum (PEX10-Related) Zellweger Syndrome Spectrum (PEX1-Related) 🕸 Zellweger Syndrome Spectrum (PEX2-Related) ♦ ● ▼ Zellweger Syndrome Spectrum (PEX6-Related) 🔶 🔳 🛡

KEY FOR SMALLER PANELS Standard % ECS 39 High Frequency V ECS 152 Comprehensive Jewish Ashkenazi Jewish Disorders Sephardi-Mizrahi Jewish Disorders rev 1218 PAGE 2 0F 3 PAGE 2 0F 3

Informed Consent for Genetic Testing

Ι,

, hereby request genetic testing, which may include molecular,

cytogenetic and/or biochemical analyses, for

Myself

My child

I have received verbal and written information (please see sema4.com/testcatalog for test-specific information sheet) from my physician or from a genetic counselor that described, in words that I understood, the nature of the genetic testing that I/my child am about to undergo.

I understand that specimen(s), such as a peripheral blood, saliva, cheek swab, dried blood spot, skin biopsy, amniotic fluid, chorionic villi and/or urine sample, will be taken from me/my child. I understand that the samples will be used for determining if I/my child have a genetic disease, are carriers of a genetic disease, or are more likely to develop a genetic disease or condition.

The nature of the genetic test(s) that have been ordered in connection with this consent has been explained to me and the accuracy of the test and its risks and limitations have been detailed. I understand that infrequent errors may occur, even though the likelihood of an incorrect diagnosis or a misinterpretation of the result is extremely small. The likelihood of this occurring has been estimated to be less than 1%. I understand that a negative result reduces, but does not eliminate, the possibility that I/my child carry a mutation(s) in the gene(s) analyzed or in other gene(s) that are not included in the test.

I understand that no test will be performed on my sample other than the one(s) authorized by me and my healthcare provider. I have reviewed the test order made in connection with this consent, and I hereby give consent to have my specimen tested as set forth in the order.

De-identified research

Sema4 may de-identify and use all data and information generated and received in connection with this test to support medical and academic research relating to health, disease prevention, drug development, and other scientific purposes, and I will receive no compensation in connection with such research. Data and information are "de-identified" by removing any information that could be used to identify a specific person, such as a name, email address, or date of birth. Sema4 may also give the de-identified data and information to its research partners and may submit it to research databases for use in scientific and medical research, including scientific databases that are maintained by the federal government, such as a database kept by the National Institutes of Health ("NIH") (an agency of the federal government that funds research). Researchers have to apply to the NIH to see the information in the database.

If I do not want to have any of my de-identified data and information used in research consistent with this consent, I may initial here_____, or I may withdraw this consent by contacting Sema4, including by emailing privacy@sema4.com.

Permission to contact

I understand that Sema4 may wish to contact me/my child in the future, including for the following reasons: research purposes, the provision of general information about research findings, and/or the provision of information about the results of tests on my/my child's sample(s). I understand that I may notify Sema4 to opt out of such future contact, including by emailing privacy@sema4.com.

I understand that Sema4 may wish to contact me/my child in the future, including for the following reasons: research purposes, the provision of general information about research findings, and/or the provision of information about the results of tests on my/my child's sample(s). I understand that I may notify Sema4 to opt out of such future contact, including by emailing privacy@sema4.com.

I understand that this testing may yield results that are of unknown clinical significance and that parental or other relative's specimens may also be tested to determine whether a specific finding was inherited. In addition, incidental findings that are not related to the primary diagnosis may be identified in me/my child. An error in the diagnosis may occur if the true biological relationships of the family members involved are not as I have stated and this test may detect non-paternity.

The results of my/my child's test will be explained to me by a genetic counselor or by my physician who will have the opportunity to discuss my results with a geneticist. I have had the opportunity to have all of my questions answered. If I am signing this form on behalf of a minor for whom I am the legal guardian, I am satisfied that I have received enough information to sign on his or her behalf.

I understand that this consent is being obtained in order to protect my right to have all of my questions answered before testing. I understand that the results of this testing will become part of my medical record and may only be disclosed to individuals who have legal access to this record or to individuals who I designate to receive this information.

Signature of person being tested (or guardian)

Date

Rev.04/17/2020