INVITAE

navigateAPDS by Pharming

ORDER ID
For internal use only

Requisition Form

navigateAPDS Sponsored Testing Program Requisition TRF882-9

This requisition form can be used to submit an order for the **navigateAPDS Sponsored Testing Program**, a sponsored testing program for genetic disorders brought to you by **Pharming Healthcare, Inc.**

INSTRUCTIONS: Review the eligibility criteria and then complete all sections of this form. Your ordering option will be indicated in the test selection section.

navigateAPDS Sponsored Testing Program Eligibility Criteria

navigateAPDS SPONSORED TESTING PROGRAM

For individuals that meet the eligibility criteria below and wish to receive the program specific genetic testing panels.

REQUIRED: You must select below the appropriate eligibility criteria for this patient.

This program is available to patients in the US, Canada, and Puerto Rico who meet *a minimum of two* of the following bulleted criteria below. Check all that apply:

Clinical Features

- ◯ Bronchiectasis
- ◯ Lymphadenopathy for greater than one month
- ◯ Chronic hepatomegaly or chronic splenomegaly
- ◯ Severe, persistent, or recurrent Herpesviridae infections (e.g., EBV, cytomegalovirus)
- ◯ Enteropathy
- ◯ Lymphoma at 0-25 years - meets the 2 eligibility criteria
- ◯ Lymphoma at ≥ 26 years of age - requires second eligibility criteria

Laboratory

- ◯ Elevated levels of immunoglobulin M
- ◯ Increased number of follicular helper T cells
- ◯ Reduced number of naïve B cells

History

- ◯ Common Variable Immune Deficiency (CVID) phenotype or direct family member with CVID phenotype
- ◯ Relative with PIK3CD or PIK3R1 genotype (first or second degree)
  Provide the specified details from your relative's clinical report under the requested variant section at the bottom of page 2 - meets the 2 eligibility criteria

REQUIRED For US and Puerto Rico patients only - this patient currently participates in a governmental insurance program (e.g. Medicare, Medicaid, TRICARE, etc.)
◯ Yes ◯ No ◯ Not applicable *Participation in governmental insurance programs does not affect eligibility for the sponsored testing program*

PATIENT INFORMATION

First name	MI	Last name
Date of birth (MM/DD/YYYY)	Biological sex ◯ M ◯ F	MRN (medical record number)

Ancestry ◯ Asian ◯ Black/African American ◯ White/Caucasian ◯ Ashkenazi Jewish ◯ Hispanic ◯ Native American ◯ Pacific Islander ◯ French Canadian ◯ Sephardic Jewish ◯ Mediterranean ◯ Other: _____

Phone	Email address (report access after clinician releases)	
Address		City
State/Prov	ZIP/Postal code	Country

Ship a kit to this patient (optional) by faxing or emailing this completed form to Invitae
Kit type: ◯ Buccal swab kit ◯ Saliva kit
Ship to: ◯ Address above ◯ Alternate address: _____

SPECIMEN INFORMATION

Specimen type: Blood (3-mL purple EDTA) **-OR-** Buccal Swabs (OCD-100, 2 devices) **-OR-** Saliva (Oragene™) **-OR-** DNA source: _____

*We cannot accept blood or oral specimens from patients with active hematologic malignancy, recent leukocyte transfusion, or history of bone marrow/stem cell/liver transplants. DNA must be extracted in a CLIA or other suitably certified lab and cannot be from prenatal or tumor sources. Details at: **invitae.com/specimen-requirements***

Specimen collection date (MM/DD/YYYY): ____ ____ ____

Special cases: ◯ History of/current hematologic malignancy in patient

INVITAE PARTNER CODE APDS

CLINICIAN INFORMATION

Organization name		
Phone	Fax	
Address		City
State/Prov	ZIP/Postal code	Country

Primary clinical contact name (if different from ordering provider)	NPI
Primary clinical contact email address (for report access)	

Ordering provider (select one ordering provider by marking the checkbox before the name)

	Name	NPI	Email address (for report access)
◯			
◯			

Additional clinical or laboratory contacts (optional, to share access to order online)

◯ **Share this order with the primary clinical contact's default clinical team, manage at invitae.com**

Name	Email address (for report access)
Name	Email address (for report access)

POST-TEST GENETIC COUNSELING (please review)

Post-test genetic counseling is available at no cost to the patient through Genome Medical, an independent telehealth genetics practice. To refer your patient after their test is complete, please check the box below.

◯ **I authorize Invitae to provide Genome Medical with access to the patient's Invitae record for the purpose of genetic counseling.**

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CLINICAL HISTORY

FAMILY HISTORY

Is there a family history of disease for which the patient is being tested? ◯ Yes ◯ No If yes, describe below and attach pedigree and/or clinical notes.

Relative's relationship to this patient	Maternal or paternal	Diagnosed condition	Age at diagnosis	Relative's relationship to this patient	Maternal or paternal	Diagnosed condition	Age at diagnosis

PERSONAL HISTORY

Is/was this patient affected or symptomatic?† ◯ Yes ◯ No
Provide details in the required clinical history questions (if applicable).

† Symptomatic means this patient has features or signs known or suspected to be related to the genetic testing being ordered and could include findings on physical examination, laboratory tests, or imaging.

REQUIRED CLINICAL HISTORY

Age of symptom onset: _____

Current Diagnoses: _____

Weight: _____

	Y	N	UNKNOWN
Familial history of APDS	◯	◯	◯
Family history of Common Variable Immune Deficiency (CVID)	◯	◯	◯
Infectious Complications			
Documented severe recurrent sinopulmonary infections	◯	◯	◯
Recurrent pneumonia	◯	◯	◯
Noninfectious Complications			
Nodular mucosal lymphoid hyperplasia	◯	◯	◯
Autoimmune cytopenia	◯	◯	◯
Non food related eosinophilic esophagitis	◯	◯	◯
Developmental delay	◯	◯	◯
Allergic disorders/atopy	◯	◯	◯
Lab findings			
Hypogammaglobulinemia	◯	◯	◯
Increased transitional B-cells	◯	◯	◯

ADDITIONAL CLINICAL HISTORY (OPTIONAL)

Laboratory findings	Patient Value/Reference Range
Serum IgG:	_____/_____
Serum IgM:	_____/_____

	Y	N	UNKNOWN
Inverted CD4/CD8 ratio	◯	◯	◯
Failure to thrive/short stature	◯	◯	◯
Dysmorphic facial features	◯	◯	◯
Aged appearance/lipodystrophy	◯	◯	◯
Dental anomalies	◯	◯	◯
Endocrinopathy	◯	◯	◯

OPTIONAL - REQUESTED VARIANTS FOR THIS PATIENT'S REPORT, IF KNOWN

To have the presence or absence of specific variants commented on in this patient's report, provide the details below.

The proband's (individual with the variant) gene/variant information is needed for this request. Provide the Invitae Order ID RQ#: _____ OR attach a copy of the outside lab results **(required)**

Variant(s) *(e.g. GENE c.2200A>T (p.Thr734Ser) NM_00012345) If left blank, all variants identified in the proband will be commented on.*		**This patient's relationship to proband:**
		◯ Parent ◯ Sibling ◯ Grandchild
		◯ Child ◯ Self ◯ Other: _____

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navigateAPDS Sponsored Testing Program

1. navigateAPDS SPONSORED TESTING PROGRAM – Indicate test(s) to be performed below:

Test code	Test name	# of genes	Gene list
○ 08104	Invitae Inborn Errors of Immunity and Cytopenias Panel* (*Includes all 429 genes from Primary Immunodeficiency Panel)	574	ABCB7, ABCG5, ABCG8, ACAN, ACD, ACP5, ACTB, ACTN1, ADA, ADA2, ADAM17, ADAMTS13, ADAR, ADGRE2, AICDA, AIRE, AK2, AK7, ALAS2, ALG6, ALPK1, ANGPT1, ANKRD26, ANKZF1, ANO6, AP3B1, AP3D1, ARHGEF1, ARMC4, ARPC1B, ASAH1, ATM, ATP6AP1, ATR, B2M, BACH2, BCL10, BCL11B, BLM, BLNK, BLOC1S3, BLOC1S6, BRCA1, BRCA2, BRIP1, BTK, C11orf70, C15orf61, C15orf62,C1QA, C1QB, C1QC, C1S, C2, C3, C5, C6, C7, C8A, C8B, C9, CARD11, CARD14, CARD8, CARD9, CARMIL2, CASP10, CASP8, CBL, CCBE1, CCDC103, CCDC114, CCDC151, CCDC39, CCDC40, CCDC65, CCNO, CD19, CD247, CD27, CD3D, CD3E, CD3G, CD40, CD40LG, CD46, CD55, CD59, CD79A, CD79B, CD81, CD8A, CDAN1, CDC42, CDCA7, CEBPE, CEP164, CFAP298, CFB, CFD, CFH, CFI, CFP, CFTR, CHD7, CHEK2, CIB1, CIITA, CLCN7, CLPB, COL7A1, COPA, CORO1A, CR2, CSF2RA, CSF2RB, CSF3R, CTC1, CTLA4, CTPS1, CTSC, CXCR2, CXCR4, CYBA, CYBB, CYCS, CYP27A1, DBR1, DCLRE1C, DDX41, DDX58, DEF6, DGAT1, DGKE, DIAPH1, DKC1, DNAAF1, DNAAF2, DNAAF3, DNAAF4, DNAAF5, DNAH1, DNAH11, DNAH5, DNAH8, DNAH9, DNAI1, DNAI2, DNAJB13, DNAJC21, DNAL1, DNASE1L3, DNASE2, DNMT3B, DOCK2, DOCK8, DRC1, DSG1, DTNBP1, DUOX2, EFL1, EIF2AK3, ELANE, EPCAM, EPG5, ERBIN, ERCC2, ERCC3, ERCC4, ERCC6L2, ETV6, EXTL3, FADD, FANCA, FANCB, FANCC, FANCD2, FANCE, FANCF, FANCG, FANCI, FANCL, FANCM, FAS, FASLG, FAT4, FCHO1, FERMT1, FERMT3, FLI1, FNIP1, FOXI3, FOXN1, FOXP3, FPR1, G6PC, G6PC3, G6PD, GAS8, GATA1, GATA2, GFI1, GINS1, GLRX5, GP1BA, GP6, GP9, GTF2E2, GTF2H5, GUCY2C, HAX1, HELLS, HMOX1, HPS1, HPS3, HPS4, HPS5, HPS6, HTRA2, HYOU1, ICOS, ICOSLG, IFIH1, IFNAR1, IFNAR2, IFNGR1, IFNGR2, IGLL1, IKBKB, IKZF1, IL10, IL10RA, IL10RB, IL12B, IL12RB1, IL12RB2, IL17F, IL17RA, IL17RC, IL18BP, IL1RN, IL21, IL21R, IL23R, IL2RA, IL2RB, IL2RG, IL36RN, IL6R, IL6ST, IL7R, IRAK4, IRF2BP2, IRF4, IRF7, IRF8, IRF9, ISG15, ITCH, ITGA2B, ITGAM, ITGB2, ITGB3, ITK, JAGN1, JAK1, JAK2, JAK3, KAT6A, KDM1A, KDM6A, KIF23, KIT, KLF1, KLHDC8B, KMT2A, KMT2D, LAMTOR2, LARS2, LAT, LCK, LCT, LIG1, LIG4, LIPA, LPIN2, LRBA, LRRC56, LRRC6, LRRC8A, LYN, LYST, MAD2L2, MAGT1, MALT1, MAP3K14, MBD4, MCIDAS, MCM4, MECOM, MEFV, MKL1, MLH1, MOGS, MPL, MPLKIP, MS4A1, MSH2, MSH6, MSN, MTHFD1, MVK, MYD88, MYH9, MYO5B, MYSM1, NAF1, NBAS, NBN, NCF2, NCF4, NCKAP1L, NCSTN, NDUFB11, NEUROG3, NF1, NFAT5, NFE2L2, NFKB1, NFKB2, NFKBIA, NHEJ1, NHP2, NLRC4, NLRP1, NLRP12, NLRP3, NME8, NOD2, NOP10, NOTCH2, NPAT, NSMCE3, OAS1, OFD1, ORAI1, OSTM1, OTULIN, P2RY12, PALB2, PARN, PAX1, PEPD, PGM3, PIH1D3, PIK3CD, PIK3R1, PLA2G4A, PLCG2, PLG, PLVAP, PMM2, PMS2, PNLIP, PNP, POLA1, POLD1, POLD2, POLE, POLE2, POLR3A, POLR3F, POMP, POT1, PRF1, PRKCD, PRKDC, PSENEN, PSMA3, PSMB4, PSMB8, PSMG2, PSTPIP1, PTEN, PTPRC, PUS1, RAB27A, RAC2, RAD51, RAD51C, RAG1, RAG2, RANBP2, RASGRP1, RASGRP2, RBCK1, RBM8A, RECQL4, REL, RELA, RELB, RFWD3, RFX5, RFXANK, RFXAP, RHOH, RIPK1, RMRP, RNASEH2A, RNASEH2B, RNASEH2C, RNF113A, RNF168, RNF31, RNU4ATAC, RORC, RPGR, RPL11, RPL15, RPL18, RPL19, RPL23, RPL26, RPL27, RPL31, RPL35, RPL35A, RPL5, RPL9, RPS10, RPS15A, RPS19, RPS24, RPS26, RPS27, RPS28, RPS29, RPS7, RPSA, RSPH1, RSPH3, RSPH4A, RSPH9, RTEL1, RUNX1, SAMD9, SAMD9L, SAMHD1, SAR1B, SBF2, SCO2, SEC23B, SEC61A1, SEMA3E, SERPING1, SGPL1, SH2D1A, SH3BP2, SH3KBP1, SI, SIAE, SKIV2L, SLC10A2, SLC19A2, SLC25A38, SLC26A3, SLC29A3, SLC35C1, SLC37A4, SLC39A7, SLC46A1, SLC51B, SLC5A1, SLC7A7, SLC9A3, SLX4, SMARCAL1, SMARCD2, SNX10, SP110, SPAG1, SPINK5, SPINT2, SPPL2A, SRP54, SRP72, STAT1, STAT2, STAT3, STAT4, STAT5B, STIM1, STK4, STN1, STX11, STX3, STXBP2, TAOK2, TAP1, TAP2, TAPBP, TAZ, TBX1, TBXA2R, TCF3, TCIRG1, TCN2, TERC, TERF2IP, TERT, TET2, TFRC, TFB1, TGFBR1, TGFBR2, THBD, THPO, TICAM1, TIMM50, TINF2, TLR3, TLR7, TMC6, TMC8, TMEM173, TMPRSS15, TNFAIP3, TNFRSF11A, TNFRSF13B, TNFRSF13C, TNFRSF1A, TNFRSF4, TNFRSF6B, TNFRSF9, TNFSF11, TNFSF12, TONSL, TOP2B, TP53, TPP2, TRAF3, TRAF3IP2, TREX1, TRNT1, TTC37, TTC7A, TYK2, UNC13D, UNC45A, UNC93B1, UNG, USB1, VAV1, VIPAS39, VPS13B, VPS33B, VPS45, WAS, WDR1, WIPF1, WNT2B, WRAP53, XIAP, XRCC2, YARS2, ZAP70, ZBTB24, ZCCHC8, ZMYND10, ZNF341
○ 08100	Invitae Primary Immunodeficiency Panel	429	ACD, ACP5, ACTB, ADA, ADA2, ADAM17, ADAR, ADGRE2, AICDA, AIRE, AK2, ALG6, ALPK1, ANGPT1, ANKZF1, AP3B1, AP3D1, ARHGEF1, ARPC1B, ASAH1, ATM, ATP6AP1, B2M, BACH2, BCL10, BCL11B, BLM, BLNK, BLOC1S3, BLOC1S6, BTK, C17orf62, C1QA, C1QB, C1QC, C1S, C2, C3, C5, C6, C7, C8A, C8B, C9, CARD11, CARD14, CARD8, CARD9, CARMIL2, CASP10, CASP8, CBL, CCBE1, CD19, CD247, CD27, CD3D, CD3E, CD3G, CD40, CD40LG, CD46, CD55, CD59, CD79A, CD79B, CD81, CD8A, CDC42, CDCA7, CEBPE, CFB, CFD, CFH, CFI, CFP, CHD7, CIB1, CIITA, CLCN7, CLPB, COL7A1, COPA, CORO1A, CR2, CSF2RA, CSF2RB, CSF3R, CTC1, CTLA4, CTPS1, CTSC, CXCR2, CXCR4, CYBA, CYBB, CYP27A1, DBR1, DCLRE1C, DDX58, DEF6, DGAT1, DIAPH1, DKC1, DNAJC21, DNASE1L3, DNASE2, DNMT3B, DOCK2, DOCK8, DSG1, DTNBP1, DUOX2, EFL1, EIF2AK3, ELANE, EPG5, ERBIN, ERCC2, ERCC3, ERCC6L2, EXTL3, FADD, FANCA, FANCB, FANCE, FANCF, FANCI, FANCL, FAS, FASLG, FAT4, FCHO1, FERMT1, FERMT3, FNIP1, FOXI3, FOXN1, FOXP3, FPR1, G6PC, G6PC3, G6PD, GATA1, GATA2, GFI1, GINS1, GTF2E2, GTF2H5, GUCY2C, HAX1, HELLS, HMOX1, HPS1, HPS3, HPS4, HPS5, HPS6, HTRA2, HYOU1, ICOS, ICOSLG, IFIH1, IFNAR1, IFNAR2, IFNGR1, IFNGR2, IGLL1, IKBKB, IKZF1, IL10, IL10RA, IL10RB, IL12B, IL12RB1, IL12RB2, IL17F, IL17RA, IL17RC, IL18BP, IL1RN, IL21, IL21R, IL23R, IL2RA, IL2RB, IL2RG, IL36RN, IL6R, IL6ST, IL7R, IRAK4, IRF2BP2, IRF4, IRF7, IRF8, IRF9, ISG15, ITCH, ITGAM, ITGB2, ITK, JAGN1, JAK1, JAK3, KAT6A, KDM6A, KMT2A, KMT2D, LAMTOR2, LAT, LCK, LCT, LIG1, LIG4, LIPA, LPIN2, LRBA, LRRC8A, LYN, LYST, MAD2L2, MAGT1, MALT1, MAP3K14, MCM4, MEFV, MKL1, MOGS, MPLKIP, MS4A1, MSN, MTHFD1, MVK, MYD88, MYO5B, MYSM1, NBAS, NBN, NCF2, NCF4, NCKAP1L, NCSTN, NEUROG3, NFAT5, NFE2L2, NFKB1, NFKB2, NFKBIA, NHEJ1, NHP2, NLRC4, NLRP1, NLRP12, NLRP3, NOD2, NOP10, NSMCE3, OAS1, ORAI1, OSTM1, OTULIN, PARN, PAX1, PEPD, PGM3, PIK3CD, PIK3R1, PLCG2, PLVAP, PMM2, PNLIP, PNP, POLA1, POLD1, POLD2, POLE, POLE2, POLR3A, POLR3F, POMP, PRF1, PRKCD, PRKDC, PSENEN, PSMA3, PSMB4, PSMB8, PSMG2, PSTPIP1, PTPRC, RAB27A, RAC2, RAG1, RAG2, RANBP2, RASGRP1, RBCK1, REL, RELA, RELB, RFWD3, RFX5, RFXANK, RFXAP, RHOH, RIPK1, RMRP, RNASEH2A, RNASEH2B, RNASEH2C, RNF113A, RNF168, RNF31, RNU4ATAC, RORC, RPSA, RTEL1, SAMD9, SAMD9L, SAMHD1, SAR1B, SCO2, SEC61A1, SEMA3E, SERPING1, SGPL1, SH2D1A, SH3BP2, SH3KBP1, SI, SIAE, SKIV2L, SLC10A2, SLC26A3, SLC29A3, SLC35C1, SLC37A4, SLC39A7, SLC46A1, SLC51B, SLC5A1, SLC7A7, SLC9A3, SLX4, SMARCAL1, SMARCD2, SNX10, SP110, SPINK5, SPINT2, SPPL2A, SRP54, SRP72, STAT1, STAT2, STAT3, STAT4, STAT5B, STIM1, STK4, STN1, STX11, STX3, STXBP2, TAOK2, TAP1, TAP2, TAPBP, TAZ, TBX1, TCF3, TCIRG1, TCN2, TERC, TERT, TFRC, TGFB1, TGFBR1, TGFBR2, THBD, TICAM1, TIMM50, TINF2, TLR3, TLR7, TMC6, TMC8, TMEM173, TMPRSS15, TNFAIP3, TNFRSF11A, TNFRSF13B, TNFRSF13C, TNFRSF1A, TNFRSF4, TNFRSF6B, TNFRSF9, TNFSF11, TNFSF12, TONSL, TOP2B, TP63, TPP2, TRAF3, TRAF3IP2, TREX1, TRNT1, TTC37, TTC7A, TYK2, UNC13D, UNC45A, UNC93B1, UNG, USB1, VAV1, VPS13B, VPS45, WAS, WDR1, WIPF1, WNT2B, WRAP53, XIAP, ZAP70, ZBTB24, ZCCHC8, ZNF341
○ B1QB78QT	PIK3CD	1	PIK3CD
○ 3MSTS6KF	PIK3R1	1	PIK3R1

2. GENE-SPECIFIC FAMILY FOLLOW-UP TESTING *For relatives of a program participant ('proband') who received a Pathogenic/Likely Pathogenic result or approved VUS.*

○ Family follow-up testing for Proband's Invitae Order ID: RQ#_____	**This patient's relationship to proband:** ○ Parent ○ Sibling ○ Grandchild ○ Child ○ Other: _____	**Gene(s) to be tested in this patient:**

***NOTE**: The presence or absence of all variants identified in the proband for the gene(s) ordered for gene-specific family follow-up will be commented on in this patient's report unless a limited selection is specified in the **Requested Variants** section above. The laboratory will report any Pathogenic/Likely Pathogenic variants found in this patient for the gene(s) ordered.*

If an order is placed using an outdated test requisition form, we reserve the right to upgrade ordered tests to their current versions. View current requisition forms online at invitae.com/forms or consider placing your order online in the Invitae portal. Note: Test IDs containing add-on codes will include the original panel as well as the add-on.

Invitae is now part of Labcorp Genetics. By signing this form, the medical professional acknowledges that the individual/family member authorized to make decisions for the individual (collectively, the "Patient") has been supplied information regarding and consented to undergo genetic testing, substantially as set forth in Labcorp Genetics' Informed Consent for Genetic Testing (invitae.com/forms). Based on this consent, I acknowledge that I permit Labcorp Genetics to de-identify the patient's personal information. The medical professional will retain evidence that the patient consented to genetic testing. The Patient has been informed that Labcorp Genetics may notify them of clinical updates related to genetic test results (in consultation with the ordering medical professional as indicated) and has been informed that deidentified (also referred to as pseudonymized) patient data may be used and shared with third parties in connection with the Program, for research and commercial purposes. For orders originating outside the United States, the Patient has been informed that their personal information and specimen will be transferred to and processed in the United States. The medical professional warrants that (1) he/she will not seek reimbursement for this no-charge test from any third party, including but not limited to government healthcare programs; (2) participation in the Program will not influence his/her medical decisions; (3) he/she is not obligated to purchase or prescribe any product or service offered by a sponsor of the Program; (4) he/she is not obligated to participate in or to encourage patients to participate in any clinical trial or other research program conducted by a sponsor; and (5) he/she will participate in the Program in accordance with applicable laws. The medical professional consents to the sharing of organization and provider contact information with third parties, including commercial organizations, who may contact the medical professional directly in connection with the Program. For California providers only: I have the right to opt-out of certain uses of my data, and additional rights as detailed in Labcorp Genetics' privacy policy. For Montana providers only: I agree to keep on file and make available to Labcorp Genetics, upon request, a copy of the consent form signed by the patient. If I am a delegate, I confirm I have authorization to (1) agree to all the above and (2) sign this form and any supporting documents for Labcorp Genetics on behalf of the ordering provider. A list of third party partners will be provided upon request. I attest that I am authorized under applicable law to order this test.

Medical professional signature (required)	Date (MM/DD/YYYY)

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