PANGAEA
ONCOLOGY

SERVICES PORTFOLIO

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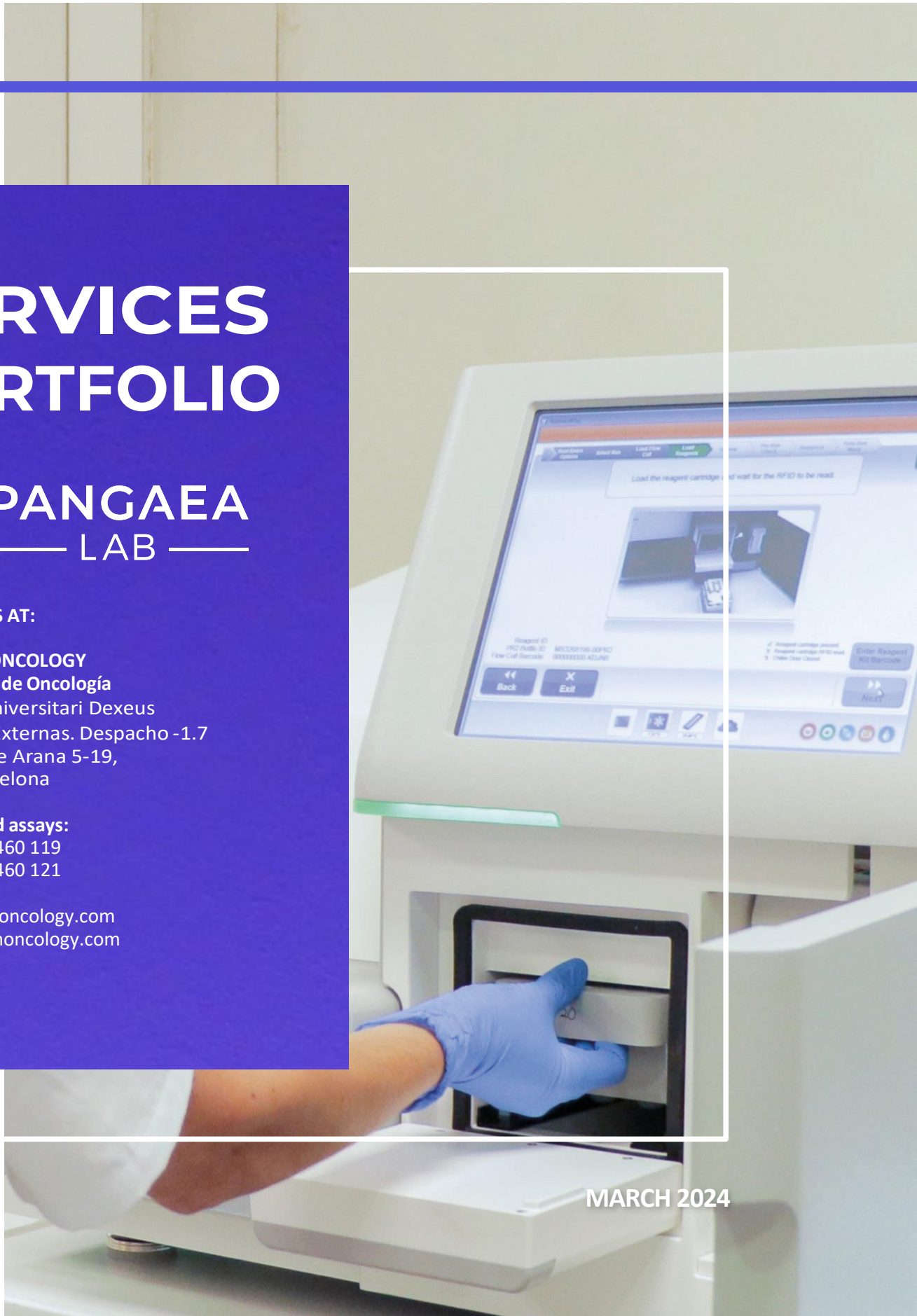


MARCH 2024

MOLECULAR TESTING OF TUMOR TISSUE SAMPLES

NUCLEIC ACID EXTRACTION

PP-T-001	**Macrodissection and DNA extraction from FFPE tissue**
PP-T-002	**Macrodissection and RNA extraction from FFPE tissue**

COMBINED STUDIES

CS-T-001	**SOLID TUMOR (*Recommended for* LUNG, MELANOMA, BREAST and other Solid tumors)** **CS-T-001** **NGS Somatic QIAseq DNA Custom Extended Panel (30 genes)** Genes: *ALK, ARID1A, BRAF, CDK4, CDK6, EGFR, ERBB2, ERBB4, FAT1, FGFR1, FGFR2, FGFR3, IDH1, IDH2, KEAP1, KIT, KRAS, MET, MYC, NFE2L2, NRAS, PDGFRA, PIK3CA, POLD1, POLE, RET, ROS1, SETD2, STK11, TP53* **nCounter RNA Fusion and Gene Expression Tumor Panel*** Fusions: *ALK, FGFR1,2,3, NRG1, NTRK1,2,3, RET, ROS1* Splicing variant*: EGFRvIII, METΔ14* Gene expression analysis: *ALK, ATM, BARD1, BID, BRCA1, BRCA2, CCNE1, CD274, CD4, CD8A, CDK2, EGFR, FGFR1,2,3, FOXP3, GZMM, IFNG, KRAS, NRG1, NTRK1,2,3, PDCD1, PTEN, RET, ROS1, STK11, TP53*
CS-T-002	**CS-T-002** **Combined study CS-T-001 and PD-L1 IHC**

**The nCounter RNA Pangaea Solid Tumor Panel could be replaced by the NGS RNA Fusion XP Lung Panel (ask for prices)*

CS-T-003	**UROTHELIAL carcinoma study** **CS-T-003** **NGS Somatic QIAseq DNA Custom Extended Panel (30 genes)** **nCounter RNA Fusion Urothelial Carcinoma Panel** Fusions*: FGFR2 and FGFR3* **Identification of the variants: *FGFR2-BICC1, FGFR2-CASP7, FGFR3ex17-TACC3ex10*** *FGFR3ex17-TACCex11, FGFR3-BAIAP2L1*
CS-T-004	**COLON study** **CS-T-004** ***KRAS*, *BRAF*, *NRAS* sequencing (NGS Custom Panel) (19 genes)** Genes: *ALK, BRAF, CDK4, CDK6, EGFR, ERBB2, ERBB4, FGFR1, IDH1, IDH2, KIT, KRAS, MET, NRAS, PDGFRA, PIK3CA, ROS1, STK11, TP53* **Mismatch Repair (MMR) status (IHC)** Genes*: MLH1, MSH2, MSH6, PMS2*
MS-T-001	**GIST study** ***c-KIT, PDGFR* sequencing (NGS Custom Panel) (19 genes)**

TISSUE SAMPLE SHIPMENT: All molecular assays in solid tumors require the shipment of Formalin Fixed Paraffin-Embedded (FFPE) blocks. Please contact us if the FFPE block is not available.

MULTIGENIC MOLECULAR PANELS

MS-T-002	**NGS somatic QIAseq DNA Breast-Gynecological custom Panel (11 genes)** Genes: *AKT, BRCA1, BRCA2, CTNNB1, ERBB2, ESR1, PALB2, PIK3CA, POLE, PTEN, TP53*
MS-T-003	**NGS Somatic QIAseq DNA Custom Extended Panel (30 genes)** Genes: *ALK, ARID1A, BRAF, CDK4, CDK6, EGFR, ERBB2, ERBB4, FAT1, FGFR1, FGFR2, FGFR3, IDH1, IDH2, KEAP1, KIT, KRAS, MET, MYC, NFE2L2, NRAS, PDGFRA, PIK3CA, POLD1, POLE, RET, ROS1, SETD2, STK11, TP53*
MS-T-004	**NGS RNA Fusion XP Lung Panel (13 genes)** Fusions: *ALK, BRAF, EGFR, FGFR1,2,3, MET, NRG1, NTRK1,2,3, RET, ROS1* Splicing variant*: METΔ14*
MS-T-005	**NGS Somatic QIAseq DNA Repair Genes Panel (28 genes)** Genes: *APC, ATM, BARD1, BRCA1, BRCA2, BRIP1, CDH1, CDKN2A, CHEK2, CTNNB1, EPCAM, FANCA, MLH1, MRE11A, MSH2, MSH6, MUTYH, NBN, PALB2, PIK3CA, PMS2, POLD1, POLE, PTEN, RAD51C, RAD51D, STK11, TP53*
MS-T-006	**nCounter RNA Fusion and Gene expression Tumor Panel** Fusions: *ALK, FGFR1,2,3, NRG1, NTRK1,2,3, RET, ROS1* Splicing variants*: EGFRvIII, METΔ14* Gene expression analysis: *ALK, ATM, BARD1, BID, BRCA1, BRCA2, CCNE1, CD274, CD4, CD8A, CDK2, EGFR, FGFR1,2,3, FOXP3, GZMM, IFNG, KRAS, NRG1, NTRK1,2,3, PDCD1, PTEN, RET, ROS1, STK11, TP53*
MS-T-007	**nCounter RNA Pangaea Urothelial Carcinoma Panel** Fusions*: FGFR2 and FGFR3* **Identification of the variants: *FGFR2-BICC1, FGFR2-CASP7, FGFR3ex17-TACC3ex10*** *FGFR3ex17-TACCex11, FGFR3-BAIAP2L1*
MS-T-008	**PROSIGNA** Genetic prognostic signature for breast cancer

INDIVIDUAL GENE MUTATIONS (TaqMan® allelic discrimination qPCR assay)

ISM-T-001	**One hotspot mutation (*BRAF, EGFR, KRAS, PIK3CA)***
ISM-T-002	***EGFR* exon 19 del and *EGFR* exon 21 (L858R, L861Q) mutations**
ISM-T-003	***EGFR* exon 19 de, *EGFR* exon 21 (L858R, L861Q) and *EGFR* exon 20 T790M mutations**
ISM-T-004	***EGFR* exon 20 resistance mutation T790M**
ISM-T-005	***EGFR* exon 20 resistance mutation C797S**
ISM-T-006	***KRAS* hotspot mutations (codons 12, 13 and 61)**
ISM-T-007	***BRAF* hotspot mutations (V600E, V600K, V600R)**
ISM-T-008	***PIK3CA* hotspot mutations (codons 542, 545 and 1047)**
ISM-T-009	***ESR1* hotspot mutations (codons 380, 536, 537, 538)**

TISSUE SAMPLE SHIPMENT: All molecular assays in solid tumors require the shipment of Formalin Fixed Paraffin-Embedded (FFPE) blocks. Please contact us if the FFPE block is not available.

SPLICING VARIANTS AND FUSIONS (nCounter Technology)

IST-T-001	**Fusion variant or *MET* splicing variant single analysis** Fusions: *ALK, FGFR1,2,3, NRG1, NTRK1,2,3, RET, ROS1* Splicing variants: *EGFRvIII, METΔ1*

ANATOMIC PATHOLOGY

ANATOMICAL PATHOLOGY DIAGNOSIS

PP-T-003	**Anatomical pathology diagnosis (H&E and 4 IHC analysis)**
PP-T-004	**Confirmation of anatomical pathology diagnosis (Previous AP report required)**

MAIN FISH ASSAYS*

ISF-T-001	**HER-2/neu amplification****
ISF-T-002	***ALK* fusions****
ISF-T-003	***ROS1* fusions**
ISF-T-004	***RET* fusions**
ISF-T-005	***MET* amplification**
ISF-T-006	***EGFR* amplification**
ISF-T-007	***KRAS* amplification**
ISF-T-008	***NTRK1* fusions**
ISF-T-009	***NTRK2* fusions**
ISF-T-010	***NTRK3* fusions**
ISF-T-011	***FGFR1* fusions**
ISF-T-012	***FGFR1* amplification**

TISSUE SAMPLE SHIPMENT: All molecular assays in solid tumors require the shipment of Formalin Fixed Paraffin-Embedded (FFPE) blocks. Please contact us if the FFPE block is not available.

ISF-T-013	***FGFR2* fusions**
ISF-T-014	***FGFR2* amplification**
ISF-T-015	***FGFR3* fusions**
ISF-T-016	***FGFR3* amplification**
ISF-T-017	***BCL2* fusions**
ISF-T-018	***BCL6* fusions**
ISF-T-019	***NRG1* fusions**
ISF-T-020	***MYC* fusions**
ISF-T-021	***MYC* amplification**
ISF-T-022	**1p/19q loss**

** Ask for other IHC or FISH assays if required*
*** FDA approved*

MAIN PRONOSTIC AND PREDICTIVE INMUNOHISTOCHEMISTRY (IHC) ASSAYS*

ISI-T-001	***ALK* (D5F3) ****
ISI-T-002	***PDL1* (22C3)**
ISI-T-003	**Mismatch Repair (MMR) status (*MLH1, MSH2, MSH6, PMS2*)**
ISI-T-004	***MET* (SP44)**
ISI-T-005	***BRG1* (*SMARCA4*) (E8V5B)**
ISI-T-006	***ERBB2 (4B5)***

** Ask for other IHC or FISH assays if required*
*** FDA approved*

EXTERNALIZED SERVICES

PO-E-001	**ONCOPDO 3D Organoid Test (Invitrocue)**
PO-E-002	**Oncotype DX**
PO-E-003	**Foundation ONE CDx**

TISSUE SAMPLE SHIPMENT: All molecular assays in solid tumors require the shipment of Formalin Fixed Paraffin-Embedded (FFPE) blocks. Please contact us if the FFPE block is not available.

MOLECULAR TESTING OF TUMOR LIQUID BIOPSY SAMPLES

NUCLEIC ACID EXTRACTION

PP-BL-001	**cfDNA extraction from liquid biopsies**
PP-BL-002	**cfRNA extraction from liquid biopsies**
PP-LB-003	**DNA extraction from white blood cells**

COMBINED STUDIES

CS-BL-001	**CS-BL-001 (Recommended for all type of tumors)** **NGS Somatic QIAseq DNA Custom Panel (19 genes)** Genes: *ALK, BRAF, CDK4, CDK6, EGFR, ERBB2, ERBB4, FGFR1, IDH1, IDH2, KIT, KRAS, MET, NRAS, PDGFRA, PIK3CA, ROS1, STK11, TP53* **nCounter RNA Fusion Solid Tumor Panel for liquid biopsies (6 genes)** *Fusions: *ALK, NRG1, NTRK1, RET, ROS1* Splicing variants*: METΔ14* **More frequently found fusions*

MULTIGENIC MOLECULAR PANELS

MS-BL-001	**NGS Somatic QIAseq DNA Custom Panel (19 genes)** Genes: *ALK, BRAF, CDK4, CDK6, EGFR, ERBB2, ERBB4, FGFR1, IDH1, IDH2, KIT, KRAS, MET, NRAS, PDGFRA, PIK3CA, ROS1, STK11, TP53*
MS-BL-002	**NGS Somatic QIAseq DNA Custom Extended Panel (30 genes)** Genes: *ALK, ARID1A, BRAF, CDK4, CDK6, EGFR, ERBB2, ERBB4, FAT1, FGFR1, FGFR2, FGFR3, IDH1, IDH2, KEAP1, KIT, KRAS, MET, MYC, NFE2L2, NRAS, PDGFRA, PIK3CA, POLD1, POLE, RET, ROS1, SETD2, STK11, TP53*
MS-BL-003	**nCounter RNA Pangaea Solid Tumor Panel for Liquid Biopsies (6 genes)** *Fusions: *ALK, NRG1, NTRK1, RET, ROS1* Splicing variants*: METΔ14* **More frequently fusions*
MS-BL-004	**NGS somatic QIAseq DNA Breast-Gynecological custom Panel (11 genes)** Genes: *AKT, CTNNB1, ERBB2, ESR1, PALB2, PIK3CA, POLE, PTEN, TP53*

LIQUID BIOPSY SAMPLE SHIPMENT: Three EDTA tubes of blood and one of serum are routinely required for most liquid biopsy assays. Please contact us for assays in other types of biological fluids.

INDIVIDUAL GENE MUTATIONS (TaqMan® allelic discrimination qPCR assay)

ISM-BL-001	One hotspot mutation (*EGFR, KRAS, BRAF, PIK3CA*)
ISM-BL-002	*EGFR* exon 19 del and *EGFR* exon 21 (L858R, L861Q) mutations
ISM-BL-003	*EGFR* exon 19 del, *EGFR* exon 21 (L858R, L861Q) and *EGFR* exon 20 T790M mutations
ISM-BL-004	*EGFR* exon 20 resistance mutation T790M
ISM-BL-005	*EGFR* exon 20 resistance mutation C797S
ISM-BL-006	*KRAS* hotspot mutations (codons 12, 13 and 61)
ISM-BL-007	*BRAF* hotspot mutations (V600E, V600K, V600R)
ISM-BL-008	*PIK3CA* hotspot mutations (codons 542, 545 and 1047)
ISM-BL-009	*ESR1* hotspot mutations (codons 380, 536, 537, 538)

SPLICING VARIANTS AND FUSIONS (nCounter Technology)

IST-BL-001	**Fusion variant or *MET* splicing variant single analysis** Fusions: *ALK, NRG1, NTRK1, RET, ROS1* Splicing variants: *METΔ14*

LIQUID BIOPSY SAMPLE SHIPMENT: Three EDTA tubes of blood and one of serum are routinely required for most liquid biopsy assays. Please contact us for assays in other types of biological fluids.

GERMLINE MOLECULAR TESTING ASSOCIATED WITH INHERITED PREDISPOSITION SYNDROMES

MULTIGENIC MOLECULAR PANELS

MS-G-001	**NGS QIAseq Inherited Cancer Panel (28 genes, germline)** Genes: *APC, ATM, BARD1, BRCA1, BRCA2, BRIP1, CDH1, CDKN2A, CHEK2, CTNNB1, EPCAM, FANCA, MLH1, MRE11A, MSH2, MSH6, MUTYH, NBN, PALB2, PIK3CA, PMS2, POLD1, POLE, PTEN, RAD51C, RAD51D, STK11, TP53*

INMUNOHISTOCHEMISTRY (IHC) ASSAYS (Recommended for Lynch syndrome)

ISI-T-003	**Mismatch Repair (MMR) status (*MLH1, MSH2, MSH6, PMS2*)***

**Sample required: FFPE Block*

MOLECULAR TESTING FOR OPHTHALMOLOGICAL DISEASES

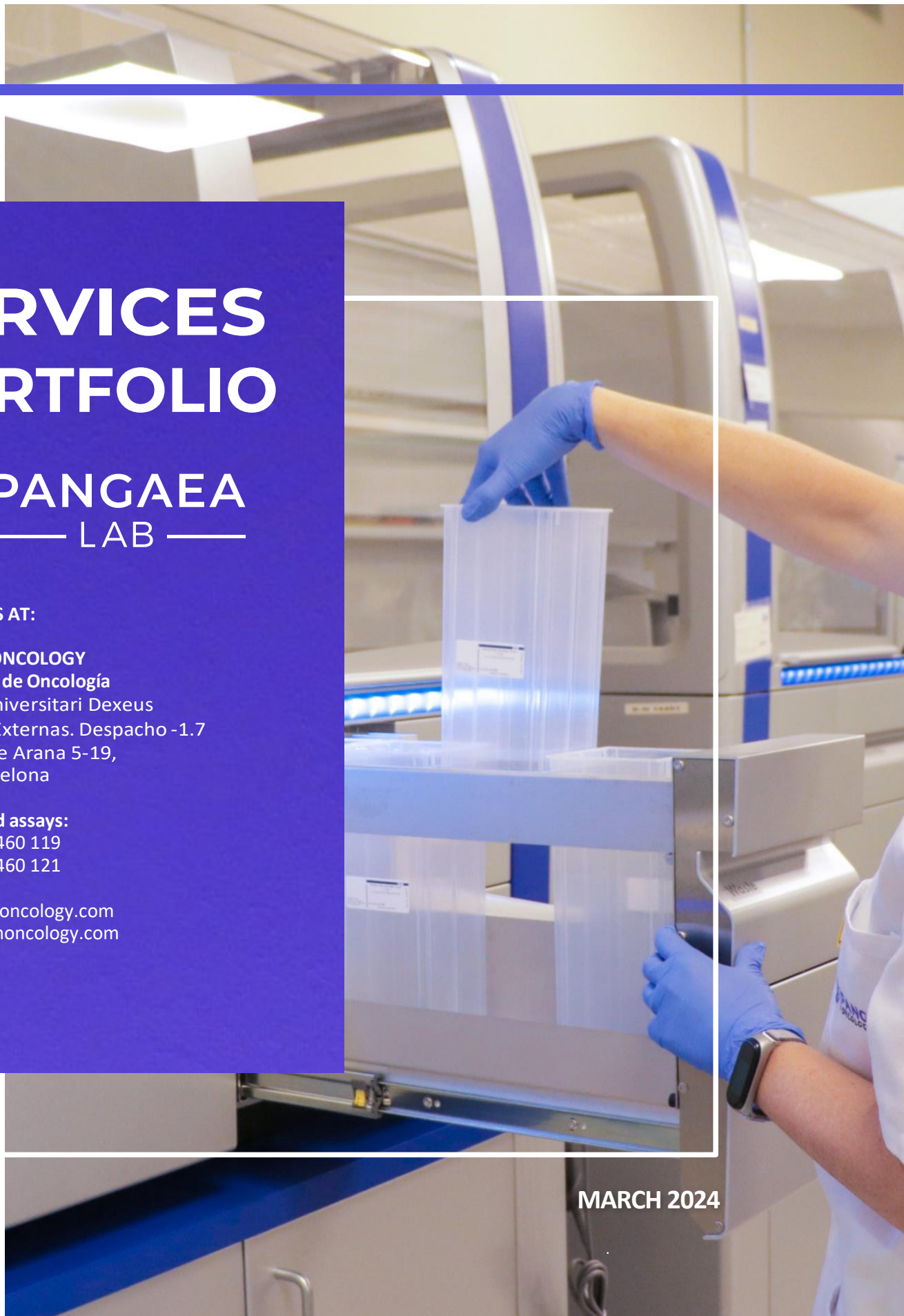
MULTIGENIC MOLECULAR PANELS

OF-BL-001	**nCounter Gene Expression Lacrima Dx (24 genes)** Genes: *B2M, CCL4, CD46, CFB, CTSS, GAPDH, HLA-A, HLA-DMB, HLA-DRB3, IFITM1, IRF7, JAK1, LGALS3, MUC1, MX1, MYD88, OAZ1, PSMB8, RARRES3, SERPING1, STAT1, STAT2, TAP1, TAPBP*
OF-BL-002	**nCounter Gene Expression Lacrima Extended Dx (96 genes)** Genes: *ABCf1, ADA, AHR, ALAS1, ARHGDIB, ATG5, B2M, BAX, BCAP31, BCL10, C14orf166, CASP3, CCL4, CCND3, CCRL1, CD14, CD19, CD46, CD59, CD83, CD99, CEACAM6, CFB, CFH, CFI, CTNNB1, CTSC, CTSS, CXCR2, DUSP4, EEF1G, FADD, FKBP5, G6PD, GAPDH, GUSB, HLA-A, HLA-C, HLA-DMB, HLA-DPA1, HLA-DQB1, HLA-DRA, HLA-DRB1, HLA-DRB3, HPRT1, IFI16, IFI35, IFITM1, IFNAR1, IFNG, IKZF2, IKBKG, IL13RA1, IL32, IL6ST, IL8, IRF5, IRF7, JAK1, LGALS3, LTF, MAPK1, MUC1, MX1, MYD88, NFKB1, NFKBIA, OAZ1, PIGR, PLA2G2A, PLAU, PML, POLR1B, POLR2A, PPIA, PSMB10, PSMB5, PSMB7, PSMB8, PTK2, PYCARD, RARRES3, RUNX1, S100A9, SDHA, SERPING1, SLC2A1, SMAD3, STAT1, STAT2, TAP1,TAPBP, TBP, TUBB*

EXTERNAL SERVICES

PO-E-004	**CentoVision Panel (Inherited Diseases)**

PANGAEA ONCOLOGY



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