Medical Laboratory
Accredited to ISO15189:2012

UKAS MEDICAL 9376

oncologica®

Leading a new era of precision oncology

Oncofocus®

Precision Oncology

ONCOFOCUS® TEST REPORT

Oncologica UK Ltd
Suite 2, The Newnham Building
Chesterford Research Park, Little Chesterford
Cambridge, CB10 1XL
Tel: +44(0)1223 785327
Email: info@oncologica.com

ONC19			
Surname		**Requester**	
Forename		**Contact details**	
DOB		**Date requested**	
Gender	Female		
Histology #		**Tumour %**	-
Primary site	Brain	**Tumour %**	90%
Tumour subtype	Glioblastoma	**(macrodissected)**	
Tissue Type	Parietal Tumour		

Comment:
The DNA and RNA extracted from this sample were of optimal quality. The Oncofocus assay on which the sample was run met all assay specific quality metrics.

Oncofocus currently targets 505 genes covering oncogenes, fusion genes, genes susceptible to copy number variation and tumour suppressors. Actionable genetic variants detected by Oncofocus are currently linked to 687 anti-cancer targeted therapies/therapy combinations.

The following actionable variants were detected:

Please note:
- There is limited evidence available in the literature to determine the pathogenicity of the ATRX and CREBBP variants detected. Therefore, assuming pathogenicity is confirmed, the following therapies would be applicable.
- The TP53 variant falls below our threshold for reporting, however repeat testing has confirmed its presence.

Within the 'Current Clinical Trials Information' section of this report, starting on page 5, the NCT numbers are hyperlinks to the clinicaltrials.gov webpages which should be accessed to gain further trial specific information

Sample Cancer Type: Glioblastoma

Clinically Significant Biomarkers

Indicated Contraindicated

Genomic Alteration	Alt Allele Freq	Relevant Therapies (In this cancer type)	Relevant Therapies (In other cancer type)	Clinical Trials
ATR deletion *(0.88 copies)*		Clinical trials and/or off-label	Clinical trials and/or off-label	4
CDKN2A deletion *(0 copies)*		Clinical trials and/or off-label	Clinical trials and/or off-label	4
ATRX mutation *c.5104_5107delGAAA, p.(Glu1702fs)*	52.66%	Clinical trials and/or off-label	Clinical trials and/or off-label	3
NBN deletion *(0.63 copies)*		Clinical trials and/or off-label	Clinical trials and/or off-label	3
TP53 mutation *c.743G>A, p.(Arg248Gln)*	97.30%	Clinical trials and/or off-label	Clinical trials and/or off-label	2
CDKN2B deletion *(0 copies)*		Clinical trials and/or off-label	Clinical trials and/or off-label	2
CREBBP mutation *c.3386_3399delTAAAGAATCCCATG, p.(Val1129fs)*	42.81%	Clinical trials and/or off-label	Clinical trials and/or off-label	1

Sources included in relevant therapies: EMA[1], FDA[2], ESMO, NCCN

Hotspot variants with >10% alternate allele reads are classified as 'detected' with an assay sensitivity and positive predictive value(PPV) of 99%. Copy number variants; amplifications of CN> 6 with the 5% confidence value of ≥4 after normalization and deletions with 95% CI ≤1 are classified as present when the tumour% >50% with a sensitivity of 80% and PPV 100%. Gene Fusions are reported when occurring in >40 counts and meeting the thresholds of assay specific internal RNA quality control with a sensitivity of 92% and PPV of 99%. Supplementary technical information is available upon request. *Please note this version of the Oncofocus test is an upgraded version to that accredited on our schedule*

Other mutations, copy number variations, or fusions that were detected but not classified by the Oncofocus Test as actionable by a known therapeutic targeted agent are not listed in the results section of this report.

Oncologica UK Ltd
Suite 2, The Newnham Building
Chesterford Research Park, Little Chesterford
Cambridge, CB10 1XL
Tel: +44(0)1223 785327
Email: info@oncologica.com

Tier Criteria Met

Genomic Alteration	Tier Classification for Glioblastoma
ATR deletion Tier: IIC	IIC: Biomarker is an inclusion criteria for clinical trials
CDKN2A deletion Tier: IIC	IIC: Biomarker is an inclusion criteria for clinical trials
ATRX mutation Tier: IIC	IIC: Biomarker is an inclusion criteria for clinical trials
NBN deletion Tier: IIC	IIC: Biomarker is an inclusion criteria for clinical trials
TP53 mutation Tier: IIC	IIC: Biomarker is an inclusion criteria for clinical trials
CDKN2B deletion Tier: IIC	IIC: Biomarker is an inclusion criteria for clinical trials
CREBBP mutation Tier: IIC	IIC: Biomarker is an inclusion criteria for clinical trials

Reference: Li et al. *Standards and Guidelines for the Interpretation and Reporting of Sequence Variants in Cancer: A Joint Consensus Recommendation of the Association for Molecular Pathology, American Society of Clinical Oncology, and College of American Pathologists.* J Mol Diagn. 2017 Jan;19(1):4-23.

Relevant Therapy Summary

● In this cancer type ○ In other cancer type ◑ In this cancer type and other cancer types ⊘ Contraindicated ⚠ Both for use and contraindicated ✖ No evidence

ATR deletion

Relevant Therapy	EMA	FDA	ESMO	NCCN	Clinical Trials*
durvalumab + olaparib	✖	✖	✖	✖	● (II)
prexasertib	✖	✖	✖	✖	● (II)
talazoparib	✖	✖	✖	✖	● (II)
BAY-1895344	✖	✖	✖	✖	● (I/II)

CDKN2A deletion

Relevant Therapy	EMA	FDA	ESMO	NCCN	Clinical Trials*
palbociclib	✖	✖	✖	✖	● (II)

* Most advanced phase (IV, III, II/III, II, I/II, I) is shown and multiple clinical trials may be available.

Other mutations, copy number variations, or fusions that were detected but not classified by the Oncofocus Test as actionable by a known therapeutic targeted agent are not listed in the results section of this report.

Oncologica UK Ltd
Suite 2, The Newnham Building
Chesterford Research Park, Little Chesterford
Cambridge, CB10 1XL
Tel: +44(0)1223 785327
Email: info@oncologica.com

Relevant Therapy Summary (continued)

● In this cancer type ○ In other cancer type ◑ In this cancer type and other cancer types ⊘ Contraindicated ⚠ Both for use and contraindicated ✖ No evidence

CDKN2A deletion (continued)

Relevant Therapy	EMA	FDA	ESMO	NCCN	Clinical Trials*
ribociclib	✖	✖	✖	✖	● (II)

ATRX mutation

Relevant Therapy	EMA	FDA	ESMO	NCCN	Clinical Trials*
niraparib	✖	✖	✖	✖	● (II)
BAY-1895344	✖	✖	✖	✖	● (I/II)
VX-970, VX-970 + chemotherapy	✖	✖	✖	✖	● (I/II)

NBN deletion

Relevant Therapy	EMA	FDA	ESMO	NCCN	Clinical Trials*
talazoparib	✖	✖	✖	✖	● (II)
BAY-1895344	✖	✖	✖	✖	● (I/II)
BGB-A317 + pamiparib	✖	✖	✖	✖	● (I)

TP53 mutation

Relevant Therapy	EMA	FDA	ESMO	NCCN	Clinical Trials*
adavosertib + olaparib	✖	✖	✖	✖	● (II)
VX-970, VX-970 + chemotherapy	✖	✖	✖	✖	● (I/II)

CDKN2B deletion

Relevant Therapy	EMA	FDA	ESMO	NCCN	Clinical Trials*
palbociclib	✖	✖	✖	✖	● (II)
ribociclib	✖	✖	✖	✖	● (II)

* Most advanced phase (IV, III, II/III, II, I/II, I) is shown and multiple clinical trials may be available.

Other mutations, copy number variations, or fusions that were detected but not classified by the Oncofocus Test as actionable by a known therapeutic targeted agent are not listed in the results section of this report.

Oncologica UK Ltd
Suite 2, The Newnham Building
Chesterford Research Park, Little Chesterford
Cambridge, CB10 1XL
Tel: +44(0)1223 785327
Email: info@oncologica.com

Relevant Therapy Summary (continued)

● In this cancer type ○ In other cancer type ◑ In this cancer type and other cancer types ⊘ Contraindicated ⚠ Both for use and contraindicated ✖ No evidence

CREBBP mutation

Relevant Therapy	EMA	FDA	ESMO	NCCN	Clinical Trials*
CCS-1477	✖	✖	✖	✖	● (I/II)

* Most advanced phase (IV, III, II/III, II, I/II, I) is shown and multiple clinical trials may be available.

Other mutations, copy number variations, or fusions that were detected but not classified by the Oncofocus Test as actionable by a known therapeutic targeted agent are not listed in the results section of this report.

Oncologica UK Ltd
Suite 2, The Newnham Building
Chesterford Research Park, Little Chesterford
Cambridge, CB10 1XL
Tel: +44(0)1223 785327
Email: info@oncologica.com

Relevant Therapy Details

Current Clinical Trials Information

Clinical Trials information is current as of 2018-09-04. For the most up-to-date information regarding a particular trial, search www.clinicaltrials.gov by NCT ID or search local clinical trials authority website by local identifier listed in 'Other identifiers'.

ATR deletion

No NCT ID - see other identifier(s)
Single Arm, Open label, Signal Seeking, Phase IIa Trial Of The Activity Of Olaparib In Combination With Durvalumab In Patients With Tumours With Homologous Recombination Repair Defects

Cancer type: Unspecified Solid Tumor

Variant class: ATR deletion

Other identifiers: ACTRN12617001000392, MoST Addendum 3, U1111-1182-6652

Population segments: Second line, Stage III, Stage IV

Phase: II

Therapy: durvalumab + olaparib

Location: Australia

NCT02286687
Phase II Study of the PARP Inhibitor BMN 673 (Talazoparib Tosylate) in Advanced Cancer Patients With Somatic Alterations in BRCA1/2, Mutations/Deletions in PTEN or PTEN Loss, a Homologous Recombination Defect, Mutations/ Deletions in Other BRCA Pathway Genes and Germline Mutation in BRCA1/2 (Not Breast or Ovarian Cancer)

Cancer type: Unspecified Cancer

Variant class: ATR deletion

Other identifiers: 2013-0961, NCI-2014-02494

Population segments: Fourth line or greater, Stage III, Stage IV

Phase: II

Therapy: talazoparib

Location: United States

US State: TX

US Contact: Dr. Sarina Piha-Paul [713-563-1930]

NCT02873975
A Phase II Study of the CHK1 Inhibitor LY2606368 in Patients With Advanced Solid Tumors Exhibiting Replicative Stress or Homologous Recombination Repair Deficiency

Cancer type: Unspecified Solid Tumor

Variant class: Fanconi anemia pathway

Other identifiers: 16-281, I4D-MC-E006, NCI-2016-01564

Population segments: Second line, Stage III, Stage IV

Phase: II

Therapy: prexasertib

Location: United States

US State: MA

US Contact: Dr. Geoffrey Shapiro [617-632-4942; Geoffrey_Shapiro@dfci.harvard.edu]

Other mutations, copy number variations, or fusions that were detected but not classified by the Oncofocus Test as actionable by a known therapeutic targeted agent are not listed in the results section of this report.

ATR deletion (continued)

NCT03188965
An Open-label, First-in-human, Dose-escalation Study to Evaluate the Safety, Tolerability, Pharmacokinetics, Pharmacodynamics, and Maximum Tolerated Dose and / or Recommended Phase II Dose of the ATR Inhibitor BAY1895344 in Patients With Advanced Solid Tumors and Lymphomas

Cancer type: Unspecified Solid Tumor

Variant class: DNA repair pathway

Other identifiers: 18594, 2017-0186, BAY1895344/18594, EudraCT Number: 2016-004484-39, IRAS ID-218516, NCI-2018-00206, Trial ID: 16754

Population segments: Adenocarcinoma, Aggressive, Diffuse large B-cell lymphoma (DLBCL), Hormone refractory, Indolent, Mantle cell lymphoma (MCL), Second line, Squamous Cell, Stage III, Stage IV

Phase: I/II

Therapy: BAY-1895344

Locations: Canada, Singapore, Switzerland, United Kingdom, United States

US State: TX

US Contact: Bayer Clinical Trials Contact [888-842-2937; clinical-trials-contact@bayer.com]

CDKN2A deletion

NCT02933736
A Phase 0/II Study of Ribociclib (LEE011) in Preoperative Rb-Positive Recurrent High-Grade Glioma and Meningioma Patients Scheduled for Resection to Evaluate Central Nervous System (CNS) Penetration

Cancer type: Glioblastoma

Variant class: CDKN2A deletion

Other identifier: PHX-16-0116-80-12

Population segments: (N/A), Neoadjuvant

Exclusion criteria variant class: RB1 mutation

Phase: II

Therapy: ribociclib

Location: United States

US State: AZ

US Contact: Dr. Norissa Honea [602-406-6267; norissa.honea@dignityhealth.org]

Other mutations, copy number variations, or fusions that were detected but not classified by the Oncofocus Test as actionable by a known therapeutic targeted agent are not listed in the results section of this report.

CDKN2A deletion (continued)

NCT02693535
Targeted Agent and Profiling Utilization Registry (TAPUR) Study

Cancer type: Unspecified Solid Tumor

Variant class: CDKN2A deletion

Other identifiers: NCI-2017-00510, Pro00014171, TAPUR

Population segments: (N/A), Aggressive, Diffuse large B-cell lymphoma (DLBCL), Extranodal marginal zone B-cell lymphoma (MALT), Follicular lymphoma (FL), Indolent, Lymphoblastic lymphoma (LBL), Mantle cell lymphoma (MCL), Other subtype, Second line, Small lymphocytic lymphoma (SLL), Stage III, Stage IV, Waldenstrom`s macroglobulinemia (WM)

Phase: II

Therapy: palbociclib

Location: United States

US States: AL, AZ, CA, FL, GA, IL, MI, NC, ND, NE, OK, OR, PA, SD, TX, UT, VA, WA

US Contact: Pam Mangat [pam.mangat@asco.org]

NCT03297606
Canadian Profiling and Targeted Agent Utilization Trial (CAPTUR): A Phase II Basket Trial

Cancer type: Unspecified Solid Tumor

Variant class: CDKN2A aberration

Other identifiers: CA209-9DL, CAPTUR, ESR-17-12831, ML39800, PM1, WI233446

Population segments: Aggressive, Diffuse large B-cell lymphoma (DLBCL), Extranodal marginal zone B-cell lymphoma (MALT), First line, Follicular lymphoma (FL), Indolent, Lymphoblastic lymphoma (LBL), Mantle cell lymphoma (MCL), Other subtype, Second line, Stage III, Stage IV, Waldenstrom`s macroglobulinemia (WM)

Phase: II

Therapy: palbociclib

Location: Canada

NCT01037790
Phase II Trial of the Cyclin-Dependent Kinase Inhibitor PD 0332991 in Patients With Cancer

Cancer type: Unspecified Solid Tumor

Variant class: G1/S cell cycle pathway

Other identifiers: NCI-2009-01467, Study 1006, UPCC 03909, UPCC03909

Population segments: Estrogen receptor positive, Fourth line or greater, HER2 negative, HER2 positive, Metastatic, Progesterone receptor positive, Second line, Stage III, Stage IV, Third line, Triple receptor negative

Phase: II

Therapy: palbociclib

Location: United States

US State: PA

US Contact: Dr. Peter O. Dwyer [855-216-0098; PennCancerTrials@emergingmed.com]

Other mutations, copy number variations, or fusions that were detected but not classified by the Oncofocus Test as actionable by a known therapeutic targeted agent are not listed in the results section of this report.

Oncologica UK Ltd
Suite 2, The Newnham Building
Chesterford Research Park, Little Chesterford
Cambridge, CB10 1XL
Tel: +44(0)1223 785327
Email: info@oncologica.com

ATRX mutation

NCT03207347
A Phase II Trial of the PARP Inhibitor, Niraparib, in BAP1 and Other DNA Damage Response (DDR) Pathway Deficient Neoplasms (UF-STO-ETI-001)

Cancer type: Unspecified Cancer

Variant class: ATRX mutation

Other identifier: UF-STO-ETI-001

Population segments: (N/A), Second line

Phase: II

Therapy: niraparib

Location: United States

US State: FL

US Contact: Ashton Monismith [352-265-0680 ext 87657; amonismith@ufl.edu]

No NCT ID - see other identifier(s)
An Open-Label Study of the Safety, Tolerability, and Pharmacokinetic/ Pharmacodynamic Profile of VX-970 as a Single Agent in Combination with Carboplatin in Subjects with Advanced Solid Tumors

Cancer type: Unspecified Solid Tumor

Variant class: DNA repair mutation

Other identifiers: EudraCT Number: 2013-005100-34, VX13-970-002

Population segments: (N/A), Adenocarcinoma, HER2 negative, Second line or greater/ Refractory/Relapsed, Stage III, Stage IV, Triple receptor negative

Phase: I/II

Therapies: VX-970, VX-970 + chemotherapy

Location: United Kingdom

NCT03188965
An Open-label, First-in-human, Dose-escalation Study to Evaluate the Safety, Tolerability, Pharmacokinetics, Pharmacodynamics, and Maximum Tolerated Dose and / or Recommended Phase II Dose of the ATR Inhibitor BAY1895344 in Patients With Advanced Solid Tumors and Lymphomas

Cancer type: Unspecified Solid Tumor

Variant class: DNA repair pathway

Other identifiers: 18594, 2017-0186, BAY1895344/18594, EudraCT Number: 2016-004484-39, IRAS ID-218516, NCI-2018-00206, Trial ID: 16754

Population segments: Adenocarcinoma, Aggressive, Diffuse large B-cell lymphoma (DLBCL), Hormone refractory, Indolent, Mantle cell lymphoma (MCL), Second line, Squamous Cell, Stage III, Stage IV

Phase: I/II

Therapy: BAY-1895344

Locations: Canada, Singapore, Switzerland, United Kingdom, United States

US State: TX

US Contact: Bayer Clinical Trials Contact [888-842-2937; clinical-trials-contact@bayer.com]

Other mutations, copy number variations, or fusions that were detected but not classified by the Oncofocus Test as actionable by a known therapeutic targeted agent are not listed in the results section of this report.

NBN deletion

NCT02286687
Phase II Study of the PARP Inhibitor BMN 673 (Talazoparib Tosylate) in Advanced Cancer Patients With Somatic Alterations in BRCA1/2, Mutations/Deletions in PTEN or PTEN Loss, a Homologous Recombination Defect, Mutations/ Deletions in Other BRCA Pathway Genes and Germline Mutation in BRCA1/2 (Not Breast or Ovarian Cancer)

Cancer type: Unspecified Cancer

Variant class: NBN deletion

Other identifiers: 2013-0961, NCI-2014-02494

Population segments: Fourth line or greater, Stage III, Stage IV

Phase: II

Therapy: talazoparib

Location: United States

US State: TX

US Contact: Dr. Sarina Piha-Paul [713-563-1930]

NCT03188965
An Open-label, First-in-human, Dose-escalation Study to Evaluate the Safety, Tolerability, Pharmacokinetics, Pharmacodynamics, and Maximum Tolerated Dose and / or Recommended Phase II Dose of the ATR Inhibitor BAY1895344 in Patients With Advanced Solid Tumors and Lymphomas

Cancer type: Unspecified Solid Tumor

Variant class: DNA repair pathway

Other identifiers: 18594, 2017-0186, BAY1895344/18594, EudraCT Number: 2016-004484-39, IRAS ID-218516, NCI-2018-00206, Trial ID: 16754

Population segments: Adenocarcinoma, Aggressive, Diffuse large B-cell lymphoma (DLBCL), Hormone refractory, Indolent, Mantle cell lymphoma (MCL), Second line, Squamous Cell, Stage III, Stage IV

Phase: I/II

Therapy: BAY-1895344

Locations: Canada, Singapore, Switzerland, United Kingdom, United States

US State: TX

US Contact: Bayer Clinical Trials Contact [888-842-2937; clinical-trials-contact@bayer.com]

NCT02660034
A Phase I/Ib, Open Label, Multiple Dose, Dose Escalation and Expansion Study to Investigate the Safety, Pharmacokinetics and Antitumor Activity of the Anti-PD-1 Monoclonal Antibody BGB-A317 in Combination With the PARP Inhibitor BGB-290 in Subjects With Advanced Solid Tumors

Cancer type: Unspecified Solid Tumor

Variant class: HRR pathway

Other identifiers: 16-183, A317/290, BGB-A317/BGB-290_Study_001, CT783, NCI-2018-00791

Population segments: HER2 negative, Second line, Stage III, Stage IV, Triple receptor negative

Phase: I

Therapy: BGB-A317 + pamiparib

Locations: Australia, New Zealand, Spain, United States

US States: AZ, CA, CO, FL, MA, NY, PA, TN, TX, VA

US Contact: Dr. Ginny Paton [clinicaltrials@beigene.com]

Other mutations, copy number variations, or fusions that were detected but not classified by the Oncofocus Test as actionable by a known therapeutic targeted agent are not listed in the results section of this report.

Oncologica UK Ltd
Suite 2, The Newnham Building
Chesterford Research Park, Little Chesterford
Cambridge, CB10 1XL
Tel: +44(0)1223 785327
Email: info@oncologica.com

TP53 mutation

NCT02576444
A Phase II Study of the PARP Inhibitor Olaparib (AZD2281) Alone and in Combination With AZD1775, AZD5363, or AZD6738 in Advanced Solid Tumors

Cancer type: Unspecified Solid Tumor

Variant class: TP53 mutation

Other identifiers: 1508016363, 16-314, NCI-2016-00922, OLAPCO, VICCMD1672

Population segments: First line, Second line, Stage IV

Phase: II

Therapy: adavosertib + olaparib

Location: United States

US States: CT, MA, OH, TN

US Contact: Manuel Avedissian [203-737-3669; manuel.avedissian@yale.edu]

No NCT ID - see other identifier(s)
An Open-Label Study of the Safety, Tolerability, and Pharmacokinetic/ Pharmacodynamic Profile of VX-970 as a Single Agent in Combination with Carboplatin in Subjects with Advanced Solid Tumors

Cancer type: Unspecified Solid Tumor

Variant class: TP53 mutation

Other identifiers: EudraCT Number: 2013-005100-34, VX13-970-002

Population segments: (N/A), Adenocarcinoma, HER2 negative, Second line or greater/ Refractory/Relapsed, Stage III, Stage IV, Triple receptor negative

Phase: I/II

Therapies: VX-970, VX-970 + chemotherapy

Location: United Kingdom

CDKN2B deletion

NCT02933736
A Phase 0/II Study of Ribociclib (LEE011) in Preoperative Rb-Positive Recurrent High-Grade Glioma and Meningioma Patients Scheduled for Resection to Evaluate Central Nervous System (CNS) Penetration

Cancer type: Glioblastoma

Variant class: CDKN2B deletion

Other identifier: PHX-16-0116-80-12

Population segments: (N/A), Neoadjuvant

Exclusion criteria variant class: RB1 mutation

Phase: II

Therapy: ribociclib

Location: United States

US State: AZ

US Contact: Dr. Norissa Honea [602-406-6267; norissa.honea@dignityhealth.org]

Other mutations, copy number variations, or fusions that were detected but not classified by the Oncofocus Test as actionable by a known therapeutic targeted agent are not listed in the results section of this report.

Oncologica UK Ltd
Suite 2, The Newnham Building
Chesterford Research Park, Little Chesterford
Cambridge, CB10 1XL
Tel: +44(0)1223 785327
Email: info@oncologica.com

CDKN2B deletion (continued)

NCT01037790
Phase II Trial of the Cyclin-Dependent Kinase Inhibitor PD 0332991 in Patients With Cancer

Cancer type: Unspecified Solid Tumor

Variant class: G1/S cell cycle pathway

Other identifiers: NCI-2009-01467, Study 1006, UPCC 03909, UPCC03909

Population segments: Estrogen receptor positive, Fourth line or greater, HER2 negative, HER2 positive, Metastatic, Progesterone receptor positive, Second line, Stage III, Stage IV, Third line, Triple receptor negative

Phase: II

Therapy: palbociclib

Location: United States

US State: PA

US Contact: Dr. Peter O. Dwyer [855-216-0098; PennCancerTrials@emergingmed.com]

CREBBP mutation

NCT03568656
An Open-label Phase I/IIa Study to Evaluate the Safety and Efficacy of CCS1477 as Monotherapy and in Combination, in Patients With Advanced Solid/Metastatic Tumours.

Cancer type: Unspecified Solid Tumor

Variant class: CREBBP mutation

Other identifier: CCS1477-01

Population segments: Hormone refractory, Second line, Stage III, Stage IV

Phase: I/II

Therapy: CCS-1477

Location: United Kingdom

Other mutations, copy number variations, or fusions that were detected but not classified by the Oncofocus Test as actionable by a known therapeutic targeted agent are not listed in the results section of this report.

Oncologica UK Ltd
Suite 2, The Newnham Building
Chesterford Research Park, Little Chesterford
Cambridge, CB10 1XL
Tel: +44(0)1223 785327
Email: info@oncologica.com

Evidence Summary by Variant Class

A variant class hierarchy was created to summarize gene variants with associated clinical evidence. Evidence items refers to citations across the different global data sources.

ATR deletion

Variant Class	Evidence Items
DNA repair pathway	3
↳ ATR deletion	2
Fanconi anemia pathway	1
↳ ATR deletion	2

CDKN2A deletion

Variant Class	Evidence Items
G1/S cell cycle pathway	2
↳ CDKN2A aberration	1
↳ CDKN2A negative	0
↳ CDKN2A deletion	2

ATRX mutation

Variant Class	Evidence Items
DNA repair pathway	3
↳ DNA repair mutation	1
↳ ATRX mutation	1

Other mutations, copy number variations, or fusions that were detected but not classified by the Oncofocus Test as actionable by a known therapeutic targeted agent are not listed in the results section of this report.

Oncologica UK Ltd
Suite 2, The Newnham Building
Chesterford Research Park, Little Chesterford
Cambridge, CB10 1XL
Tel: +44(0)1223 785327
Email: info@oncologica.com

Evidence Summary by Variant Class (continued)

A variant class hierarchy was created to summarize gene variants with associated clinical evidence. Evidence items refers to citations across the different global data sources.

NBN deletion

Variant Class	Evidence Items
DNA repair pathway	3
↳ NBN deletion	1
HRR pathway	1
↳ NBN deletion	1

TP53 mutation

Variant Class	Evidence Items
TP53 aberration	0
↳ TP53 mutation	2

CDKN2B deletion

Variant Class	Evidence Items
G1/S cell cycle pathway	2
↳ CDKN2B deletion	1

CREBBP mutation

Variant Class	Evidence Items
CREBBP mutation	1

Other mutations, copy number variations, or fusions that were detected but not classified by the Oncofocus Test as actionable by a known therapeutic targeted agent are not listed in the results section of this report.

Suite 2, The Newnham Building, Chesterford Research Park,
Little Chesterford, Cambridge, CB10 1XL

+44 (0) 1223 785 327 - info@oncologica.com

Ireland

Bymac Centre, Northwest
Business Park, Blanchardstow, Dublin 15

+353 1 8604204

Italy

Parco Tecnologico della Sardegna
Pula, Località Piscinamanna

+39 02 808 88210

Medical Laboratory
Accredited to ISO15189:2012

UKAS MEDICAL 9376

oncologica®

Leading a new era of precision oncology

Immunofocus®

PD-1/PD-L1 TESTING

IMMUNOFOCUS® TEST REPORT

Oncologica UK Ltd
Suite 2, The Newnham Building
Chesterford Research Park, Little Chesterford
Cambridge, CB10 1XL
Tel: +44(0)1223 785327
Email: info@oncologica.com

ONC19			
Surname		**Requester**	
Forename		**Contact details**	
DOB		**Date requested**	
Gender	Female		
Histology #		**Tumour %**	-
Primary site	Brain	**Tumour %**	90%
Tumour subtype	Glioblastoma	**(macrodissected)**	
Tissue Type	Parietal Tumour		

PD-L1 test

PD-L1 IHC assays are used to help identify those patients most likely to benefit from anti-PD-1/PD-L1 directed immunotherapies. Assessment involves the determination of a range of cut-off/threshold values for PD-L1 positive tumour cells and PD-L1 positive immune cells. These cut off values are identified as predictors of response to anti-PD-L1 directed therapies used in the treatment of a range of different cancer types and include pembrolizumab, atezolizumab, avelumab, nivolumab, and durvalumab. The established cut off values for tumour proportion scores (>1%, >25%, >50%) and PD-L1 positive immune cells (10%), which vary according to immunotherapy, tumour type and whether first or second line therapy is to be used.

The Oncologica® Immunofocus PD-L1 immunocytochemistry assay quantifies the proportion of tumour cells that express PD-L1 (Tumour Proportion Score) and the area occupied by tumour infiltrating PD-L1 positive immune cells.

The Oncologica® Immunofocus PD-L1 immunocytochemistry assay is a Laboratory Developed Test utilising the RUO rabbit monoclonal antibody clone E1L3N (Cell Signalling Technologies) and Leica Bond III instrumentation. The performance of the Immunofocus assay is continually assessed by involvement in recognised External Quality Assessment schemes and returns performance levels commensurate with approved the PD-L1 diagnostic assays. All Immunofocus assay testing is performed within the scope of UKAS/ISO 15189:2012 accreditation. Clone E1L3N is not licensed and approved for use in clinical testing to direct the use of PD-1/PD-L1 therapies. The PD-L1 protein expression levels in tumour cells generated by the Immunofocus PD-L1 assay should therefore be interpreted within the context of these facts.

PD-L1 Result

No significant PD-L1 immunostaining of tumour cells is observed. There is an absence of a tumour associated PD-L1 expressing immune cell (IC) infiltrate.

Summary; PD-L1 Tumour Proportion Score 0%; PD-L1 positive ICs 0% of tumour area

Suite 2, The Newnham Building, Chesterford Research Park,
Little Chesterford, Cambridge, CB10 1XL

+44 (0) 1223 785 327 - info@oncologica.com

Ireland

Bymac Centre, Northwest
Business Park, Blanchardstow, Dublin 15

+353 1 8604204

Italy

Parco Tecnologico della Sardegna
Pula, Località Piscinamanna

+39 02 808 88210