



[Oncofocus] Patient Test Report

ONC17
Surname
Forename
DOB
Gender
Histology #
Primary site
Tumour subtype
Tissue Type

Requesting Clinician

Date requested

Tumour % -
Tumour % 55%
(macrodissected)

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.

237 genes were targeted using 2530 unique amplicons covering oncogenes, fusion genes, genes susceptible to copy number variation and tumour suppressors. Actionable genetic variants detected by Oncofocus are linked to 582 anti-cancer targeted therapies.

The following actionable variants were detected:

Variant Summary

Sample Cancer Type: Colorectal Cancer

In this cancer type
 In other cancer type
 In this cancer type and other cancer types
 Contraindicated
 Both for use and contraindicated
 No evidence

| Gene Variant | EMA | US-FDA | ESMO | US-NCCN | Global Clinical Trials |
|----------------------------|-----|--------|------|---------|------------------------|
| TP53 p.(G245D) c.734G>A | × | × | × | × | ● (5) |
| BRAF p.(G469A) c.1406G>C | × | × | × | × | ● (25) |
| PIK3CA p.(N345K) c.1035T>A | × | × | × | × | ● (11) |

EMA: European Medicine Agency, **US-FDA:** United States-Food and Drug Administration, **ESMO:** European Society for Medical Oncology, **US-NCCN:** United States-National Comprehensive Cancer Network. Numbers in parentheses indicate the number of relevant therapies with evidence. Hotspot variants with >10% alternate allele reads, and in >10 unique reads are classified as 'detected' with an assay sensitivity and positive predictive value (PPV) of 92%. 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 >20 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.

ONC17-: 0070

www.oncologica.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.

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

TP53 p.(G245D) c.734G>A

| Relevant Therapy | EMA | US-FDA | ESMO | US-NCCN | Global Clinical Trials* |
|-------------------------------|-----|--------|------|---------|-------------------------|
| MK-1775 + olaparib | ✕ | ✕ | ✕ | ✕ | ● (II) |
| ixazomib + vorinostat | ✕ | ✕ | ✕ | ✕ | ● (I) |
| MK-1775 | ✕ | ✕ | ✕ | ✕ | ● (I) |
| pembrolizumab + p53MVA | ✕ | ✕ | ✕ | ✕ | ● (I) |
| SGT-53, SGT-53 + chemotherapy | ✕ | ✕ | ✕ | ✕ | ● (I) |

BRAF p.(G469A) c.1406G>C

| Relevant Therapy | EMA | US-FDA | ESMO | US-NCCN | Global Clinical Trials* |
|---|-----|--------|------|---------|-------------------------|
| BRAF inhibitor + MEK inhibitor + panitumumab, BRAF inhibitor + panitumumab | ✕ | ✕ | ✕ | ✕ | ● (II/III) |
| atezolizumab + bevacizumab + chemotherapy, bevacizumab + chemotherapy, cetuximab + vemurafenib + chemotherapy | ✕ | ✕ | ✕ | ✕ | ● (II) |
| palbociclib | ✕ | ✕ | ✕ | ✕ | ● (II) |
| regorafenib | ✕ | ✕ | ✕ | ✕ | ● (II) |
| sorafenib | ✕ | ✕ | ✕ | ✕ | ● (II) |
| sorafenib + chemotherapy | ✕ | ✕ | ✕ | ✕ | ● (II) |
| sorafenib, sunitinib malate | ✕ | ✕ | ✕ | ✕ | ● (II) |
| trametinib | ✕ | ✕ | ✕ | ✕ | ● (II) |
| BAL-3833 | ✕ | ✕ | ✕ | ✕ | ● (I/II) |
| LNP3794 | ✕ | ✕ | ✕ | ✕ | ● (I/II) |
| NKTR-214 | ✕ | ✕ | ✕ | ✕ | ● (I/II) |

* Most advanced phase (IV, III, II/III, II, I/II, I) is shown and multiple clinical trials may be available. See global clinical trials section in the pages to follow.

ONC17-: 0070

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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

BRAF p.(G469A) c.1406G>C (continued)

| Relevant Therapy | EMA | US-FDA | ESMO | US-NCCN | Global Clinical Trials* |
|---|-----|--------|------|---------|-------------------------|
| PLX-8394 | ✕ | ✕ | ✕ | ✕ | ● (I/II) |
| selumetinib + vistusertib | ✕ | ✕ | ✕ | ✕ | ● (I/II) |
| abemaciclib + LY3214996 , LY3214996 , LY3214996 + chemotherapy, LY3214996 + midazolam | ✕ | ✕ | ✕ | ✕ | ● (I) |
| BGB-283 | ✕ | ✕ | ✕ | ✕ | ● (I) |
| BVD-523 | ✕ | ✕ | ✕ | ✕ | ● (I) |
| CB-5083 | ✕ | ✕ | ✕ | ✕ | ● (I) |
| crizotinib + vemurafenib, sorafenib + vemurafenib | ✕ | ✕ | ✕ | ✕ | ● (I) |
| dabrafenib, dabrafenib + trametinib | ✕ | ✕ | ✕ | ✕ | ● (I) |
| HM-95573 | ✕ | ✕ | ✕ | ✕ | ● (I) |
| LTT-462 | ✕ | ✕ | ✕ | ✕ | ● (I) |
| LXH254 | ✕ | ✕ | ✕ | ✕ | ● (I) |
| LY2228820 + prexasertib | ✕ | ✕ | ✕ | ✕ | ● (I) |
| RO-5126766 | ✕ | ✕ | ✕ | ✕ | ● (I) |
| trametinib + radiation therapy, trametinib + surgical intervention | ✕ | ✕ | ✕ | ✕ | ● (I) |

PIK3CA p.(N345K) c.1035T>A

| Relevant Therapy | EMA | US-FDA | ESMO | US-NCCN | Global Clinical Trials* |
|--|-----|--------|------|---------|-------------------------|
| MEK inhibitor + PIK3/mTOR inhibitor, PIK3/mTOR inhibitor | ✕ | ✕ | ✕ | ✕ | ● (II/III) |
| AZD-5363 + olaparib | ✕ | ✕ | ✕ | ✕ | ● (II) |

* Most advanced phase (IV, III, II/III, II, I/II, I) is shown and multiple clinical trials may be available. See global clinical trials section in the pages to follow.

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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

PIK3CA p.(N345K) c.1035T>A (continued)

| Relevant Therapy | EMA | US-FDA | ESMO | US-NCCN | Global Clinical Trials* |
|---|-----|--------|------|---------|-------------------------|
| everolimus | × | × | × | × | ● (II) |
| sirolimus | × | × | × | × | ● (II) |
| taselisib | × | × | × | × | ● (II) |
| ASN-003 | × | × | × | × | ● (I/II) |
| CB-839 + chemotherapy | × | × | × | × | ● (I/II) |
| selumetinib + vistusertib | × | × | × | × | ● (I/II) |
| MSC-2363318A | × | × | × | × | ● (I) |
| palbociclib + pictilisib, palbociclib + taselisib | × | × | × | × | ● (I) |
| PQR-309 | × | × | × | × | ● (I) |

* Most advanced phase (IV, III, II/III, II, I/II, I) is shown and multiple clinical trials may be available. See global clinical trials section in the pages to follow.

Current Global Clinical Trials Information

Global Clinical Trials information is current as of 2016-12-01. 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'.

TP53 p.(G245D) c.734G>A

NCT02432963

A Phase I Study of a p53MVA Vaccine in Combination With Pembrolizumab

Cancer type: Colorectal Cancer

Variant class: TP53 mutation

Other identifiers: 116634, 122284, 122771, 124524, 15002, NCI-2015-00653, TrialTroveID-256830

Population segments: HER2 negative, Second line or greater/Refractory/Relapsed, Stage III, Stage IV, Triple receptor negative, Unresectable

Phase: I

Therapy: pembrolizumab + p53MVA

Location: United States

US State: CA

US Contact: Vincent Chung [800-826-4673]

NCT02576444

A Phase II Study of the PARP Inhibitor Olaparib (AZD2281) Alone and in Combination With AZD1775, AZD5363, or AZD2014 in Advanced Solid Tumors

Cancer type: Unspecified Solid Tumor

Variant class: TP53 mutation

Other identifiers: 1508016363, OLAPCO, TrialTroveID-266161

Population segments: First line, Second line or greater/Refractory/Relapsed, Stage IV

Phase: II

Therapy: MK-1775 + olaparib

Location: United States

US States: CT, MA

US Contact: Multiple contacts: See www.clinicaltrials.gov for complete list of contacts.

TP53 p.(G245D) c.734G>A (continued)**NCT02042989**

A Phase I Study of MLN9708 and Vorinostat to Target Autophagy in Patients With Advanced p53 Mutant Malignancies

Cancer type: Unspecified Solid Tumor

Variant class: TP53 mutation

Other identifiers: 2013-0511, NCI-2014-01091, TrialTroveID-201319

Population segments: Line of therapy N/A, Stage III, Stage IV

Phase: I

Therapy: ixazomib + vorinostat

Location: United States

US State: TX

US Contact: Dr. Siqing Fu [713-563-1930]

NCT02610075

A Phase Ib Study to Determine the Maximum Tolerated Dose (MTD) of AZD1775 Monotherapy in Patients With Locally Advanced or Metastatic Solid Tumours.

Cancer type: Unspecified Solid Tumor

Variant class: TP53 mutation

Other identifiers: D6015C00003, REFMAL 398, TrialTroveID-268385

Population segments: Liver mets, Second line or greater/Refractory/Relapsed, Stage III, Stage IV

Phase: I

Therapy: MK-1775

Location: United States

US States: CO, TN

US Contact: AstraZeneca Clinical Study Information Center [877-240-9479; information.center@astrazeneca.com]

NCT02354547

A Phase I Study of SGT-53, a TfRscFv-Liposome-p53 Complex, in Children with Refractory or Recurrent Solid Tumors

Cancer type: Unspecified Solid Tumor

Variant class: TP53 mutation

Other identifiers: 1405-1316, SGT53-01-2, TrialTroveID-251586

Population segments: (N/A), Second line or greater/Refractory/Relapsed

Phase: I

Therapies: SGT-53, SGT-53 + chemotherapy

Location: United States

US State: TX

US Contact: Multiple contacts: See www.clinicaltrials.gov for complete list of contacts.

BRAF p.(G469A) c.1406G>C**No NCT ID - see other identifier(s)**

Molecular selection of therapy in metastatic colorectal cancer: a molecularly stratified randomised controlled trial programme

Cancer type: Colorectal Cancer

Variant class: BRAF mutation

Other identifiers: 14893, CR13, CRUK/11/054, EudraCT Number: 2012-005111-12, FOCUS-4, FOCUS4, IRAS ID 119459, ISRCTN90061546, MREC N° 13/SC/0111, TrialTroveID-187137, UKCRN ID: 14893

Population segments: First line, Stage III, Stage IV

Phase: II/III

Therapies: BRAF inhibitor + MEK inhibitor + panitumumab, BRAF inhibitor + panitumumab

Location: United Kingdom

NCT02291289

A Multi-centre Randomised Clinical Trial of Biomarker-driven Maintenance Treatment for First-line Metastatic Colorectal Cancer (MODUL)

Cancer type: Colorectal Cancer

Variant class: BRAF mutation

Other identifiers: 14-ROC-5, EudraCT Number: 2014-001017-61, IRAS ID: 162679, MO29112, MO29112 (MODUL), MODUL, NL50698.100.14, REec-2015-1969, TrialTroveID-218601, UKCRN ID: 17493

Population segments: First line, Maintenance/Consolidation, Stage IV

Phase: II

Therapies: atezolizumab + bevacizumab + chemotherapy, bevacizumab + chemotherapy, cetuximab + vemurafenib + chemotherapy

Locations: Argentina, Belgium, Brazil, Denmark, Egypt, France, Germany, Greece, Italy, Mexico, Netherlands, Portugal, Republic of Korea, Russian Federation, Slovakia, Spain, Sweden, United Kingdom

NCT01037790

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

Cancer type: Colorectal Cancer

Variant class: BRAF mutation

Other identifiers: NCI-2009-01467, Study 1006, TrialTroveID-120590, UPCC 03909, UPCC03909

Population segments: Estrogen receptor positive, HER2 negative, HER2 positive, Metastatic, Progesterone receptor positive, Second line or greater/Refractory/Relapsed, Stage III, Stage IV, Triple receptor negative

Phase: II

Therapy: palbociclib

Location: United States

US State: PA

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

BRAF p.(G469A) c.1406G>C (continued)**NCT02013089**

A Pilot Study of Genomic Sequencing Guided Individualized Therapy in Gastrointestinal Cancers

Cancer type: Colorectal Cancer

Variant class: RAF aberration

Other identifiers: GIHSYSU04, GITIC, TrialTroveID-231676

Population segments: Second line or greater/Refractory/Relapsed, Stage IV

Phase: II

Therapies: sorafenib, sunitinib malate

Location: China

NCT02583542

A Phase Ib/IIa Study of AZD2014 in Combination With Selumetinib in Patients With Advanced Cancers.

Cancer type: Colorectal Cancer

Variant class: RAS/RAF/MEK/ERK pathway

Other identifiers: 009896QM, EudraCT Number: 2014-002613-31, IRAS ID 172356, Torcmek, TrialTroveID-265019, UKCRN ID:18725

Population segments: EGFR, FGFR, HER2 negative, HER2 positive, KRAS, Second line or greater/Refractory/Relapsed, Squamous Cell, Stage III, Stage IV, Triple receptor negative

Phase: I/II

Therapy: selumetinib + vistusertib

Location: United Kingdom

NCT01781429

Phase I Dose-Escalation, Safety, Pharmacokinetic and Pharmacodynamic Study of BVD-523 in Patients With Advanced Malignancies

Cancer type: Colorectal Cancer

Variant class: BRAF mutation

Other identifiers: 13-010, 13-254, 2013-0574, AAAP2107, BVD-523-01, NCI-2013-01663, REFMAL 286 IST, TrialTroveID-180584, VICCPHI1375

Population segments: Second line or greater/Refractory/Relapsed, Stage III, Stage IV

Phase: I

Therapy: BVD-523

Location: United States

US States: CA, CT, FL, MA, MO, NY, TN, TX

US Contact: BioMed Valley Discoveries Inc [816-960-6600; ERK@biomed-valley.com]

BRAF p.(G469A) c.1406G>C (continued)**NCT02405065**

Phase I Study to Assess the Safety, Tolerability and Pharmacokinetics and Anti-tumor Activity of HM95573 in Solid Tumors

Cancer type: Colorectal Cancer

Variant class: BRAF mutation

Other identifiers: HM-RAFI-101, TrialTroveID-220532

Population segments: KRAS, Second line or greater/Refractory/Relapsed, Stage III, Stage IV

Phase: I

Therapy: HM-95573

Location: Republic of Korea

NCT02860780

A Phase I Dose-Escalation Study of LY2606368 in Combination With Ralimetinib in Patients With Advanced or Metastatic Cancer

Cancer type: Colorectal Cancer

Variant class: BRAF mutation

Other identifiers: 16379, EudraCT Number: 2015-005611-33, I4D-MC-JTJL, TrialTroveID-284116

Population segments: KRAS, Second line or greater/Refractory/Relapsed, Stage III, Stage IV

Phase: I

Therapy: LY2228820 + prexasertib

Locations: Germany, United States

US State: TN

US Contact: Eli Lilly [877-285-4559]

NCT02693535

Targeted Agent and Profiling Utilization Registry (TAPUR) Study

Cancer type: Unspecified Solid Tumor

Variant class: BRAF mutation

Other identifiers: Pro00014171, TAPUR, TrialTroveID-273941

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 or greater/Refractory/Relapsed, Small lymphocytic lymphoma (SLL), Stage III, Stage IV, Waldenstrom's macroglobulinemia (WM)

Phase: II

Therapy: regorafenib

Location: United States

US States: IL, MI, NC, PA, SD

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

BRAF p.(G469A) c.1406G>C (continued)**NCT02029001**

A Two-period, Multicenter, Randomized, Open-label, Phase II Study Evaluating the Clinical Benefit of a Maintenance Treatment Targeting Tumor Molecular Alterations in Patients With Progressive Locally-advanced or Metastatic Solid Tumors MOST: My own specific treatment

Cancer type: Unspecified Solid Tumor

Variant class: BRAF mutation

Other identifiers: ET12-081, EudraCT number: 2012-004510-34, MOST, ProfiLER, TrialTroveID-200294

Population segments: Maintenance/Consolidation, Second line or greater/Refractory/Relapsed, Stage III, Stage IV

Exclusion criteria variant class: BRAF V600 mutation

Phase: II

Therapy: sorafenib

Location: France

NCT02465060

Molecular Analysis for Therapy Choice (MATCH)

Cancer type: Unspecified Solid Tumor

Variant class: BRAF mutation

Other identifiers: 15-7002, CTSU/EAY131, EAY131, EAY131-A, EAY131-B, EAY131-E, EAY131-F, EAY131-G, EAY131-H, EAY131-I, EAY131-MATCH, EAY131-N, EAY131-P, EAY131-Q, EAY131-R, EAY131-S1, EAY131-S2, EAY131-T, EAY131-U, EAY131-V, EAY131-X, ECOGEAY131-M, MATCH, NCI-2015-00054, NCI-MATCH, TrialTroveID-258747

Population segments: (N/A), Aggressive, ALK, Classical, EGFR, HER2 positive, Indolent, Nodular lymphocyte-predominant, Second line or greater/Refractory/Relapsed, Stage III, Stage IV

Exclusion criteria variant class: BRAF V600 mutation

Phase: II

Therapy: trametinib

Location: United States

US States: AK, AL, AR, AZ, CA, CO, CT, DC, DE, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OK, OR, PA, RI, SC, SD, TN, TX, UT, VA, WA, WI, WV, WY

US Contact: Multiple contacts: See www.clinicaltrials.gov for complete list of contacts.

BRAF p.(G469A) c.1406G>C (continued)**NCT02747537**

Phase II Clinical Trial Treating Relapsed/Recurrent/Refractory Pediatric Solid Tumors With the Genomically-Targeted Agent Sorafenib in Combination With Irinotecan

Cancer type: Unspecified Solid Tumor

Variant class: RAF mutation

Other identifiers: 201605006, NCI-2016-00680, TrialTroveID-277232

Population segments: (N/A), Second line or greater/Refractory/Relapsed

Phase: II

Therapy: sorafenib + chemotherapy

Location: United States

US State: MO

US Contact: Dr. Robert Hayashi [314-454-6018; hayashi_r@kids.wustl.edu]

NCT02437227

A Phase 1, First in Man, Dual Centre, Open-label Dose Escalation Study With Expansion to Evaluate the Safety, Tolerability, Pharmacokinetics and Pharmacodynamics of CCT3833 (BAL3833), a panRAF Inhibitor, Given Orally in Patients With Advanced Solid Tumours, Including Metastatic Melanoma

Cancer type: Unspecified Solid Tumor

Variant class: BRAF mutation

Other identifiers: 4232, PanRAF, TrialTroveID-257046

Population segments: Second line or greater/Refractory/Relapsed, Stage III, Stage IV

Phase: I/II

Therapy: BAL-3833

Location: United Kingdom

No NCT ID - see other identifier(s)

A Phase I/II Study of LNP3794 in Patients with Advanced Solid Tumors having RAS/BRAF Mutations

Cancer type: Unspecified Solid Tumor

Variant class: BRAF mutation

Other identifier: TrialTroveID-250171

Population segments: Line of therapy N/A, Stage III, Stage IV

Phase: I/II

Therapy: LNP3794

Location: United Kingdom

BRAF p.(G469A) c.1406G>C (continued)**NCT02869295**

A Phase I/II, Open-Label, Multicenter, Dose Escalation and Dose Expansion Study of NKTR-214 in Subjects with Locally Advanced or Metastatic Solid Tumor Malignancies

Cancer type: Unspecified Solid Tumor

Variant class: BRAF mutation

Other identifiers: 15-214-01, 2015-0573, EudraCT Number: 2016-001134-10, TrialTroveID-258750

Population segments: Adenocarcinoma, First line, HER2 negative, Second line or greater/Refractory/Relapsed, Squamous Cell, Stage III, Stage IV, Triple receptor negative

Phase: I/II

Therapy: NKTR-214

Location: United States

US States: CT, OR, TX

US Contact: Nektar Recruitment [855-482-8676; StudyInquiry@nektar.com]

NCT02428712

A Phase I/IIa Study to Assess the Safety, Pharmacokinetics, and Pharmacodynamics of PLX8394 in Patients With Advanced, Unresectable Solid Tumors

Cancer type: Unspecified Solid Tumor

Variant class: BRAF mutation

Other identifiers: 2015-0158, NCI-2015-00720, PLX120-03, TrialTroveID-256645

Population segments: Anaplastic, Papillary, Second line or greater/Refractory/Relapsed, Stage III, Stage IV

Phase: I/II

Therapy: PLX-8394

Location: United States

US States: AZ, MI, TX, UT

US Contact: Terry Cho [tcho@plexikon.com]

No NCT ID - see other identifier(s)

A Phase Ib, Multi-Center Study to Evaluate the Efficacy of BGB-283 in Patients with Solid Tumors

Cancer type: Unspecified Solid Tumor

Variant class: BRAF mutation

Other identifier: TrialTroveID-261285

Population segments: (N/A), Line of therapy N/A

Phase: I

Therapy: BGB-283

Locations: Australia, New Zealand

BRAF p.(G469A) c.1406G>C (continued)**NCT01531361**

A Phase I Trial of Sorafenib (CRAF, BRAF, KIT, RET, VEGFR, PDGFR Inhibitor) or Crizotinib (MET, ALK, ROS1 Inhibitor) in Combination With Vemurafenib (BRAF Inhibitor) in Patients With Advanced Malignancies

Cancer type: Unspecified Cancer

Variant class: BRAF mutation

Other identifiers: 2011-1183, NCI-2012-00217, TrialTroveID-162168

Population segments: Adenocarcinoma, Papillary, Second line or greater/Refractory/Relapsed, Stage III, Stage IV

Phase: I

Therapies: crizotinib + vemurafenib, sorafenib + vemurafenib

Location: United States

US State: TX

US Contact: MD Anderson Cancer Center [855-873-4321]

NCT01231594

A Rollover Study to provide Continued Treatment with GSK2118436 to Subjects with BRAF Mutation-Positive Tumors

Cancer type: Unspecified Solid Tumor

Variant class: BRAF mutation

Other identifiers: 114144, 12-016, 2010-0801, 44629, BR114144, Eudra CT Number: 2011-000883-83, F14020, HCI 44629, IRAS ID 95276, NCI-2011-02757, OSU-11024, REFMAL 223, TrialTroveID-137250, VICCMEL1209

Population segments: Line of therapy N/A, Stage IV

Phase: I

Therapies: dabrafenib, dabrafenib + trametinib

Locations: Australia, Italy, Spain, United Kingdom, United States

US States: AZ, CA, FL, MI, NY, OH, OK, PA, SC, TN, TX, UT, WA

US Contact: US GSK Clinical Call Center [877-379-3718; GSKClinicalSupportHD@gsk.com]

NCT02407509

A Phase I Trial of R05126766 (a Dual RAF/MEK Inhibitor) Exploring Intermittent, Oral Dosing Regimens in Patients With Solid Tumours or Multiple Myeloma

Cancer type: Unspecified Solid Tumor

Variant class: BRAF mutation

Other identifiers: CCR3808, DDU RAF/MEK, EudraCT Number: 2012-001040-22, TrialTroveID-206542

Population segments: Second line or greater/Refractory/Relapsed, Stage III, Stage IV

Phase: I

Therapy: R0-5126766

Location: United Kingdom

BRAF p.(G469A) c.1406G>C (continued)**NCT02015117**

A Phase I Study of Trametinib in Combination With Radiation Therapy for Brain Metastases

Cancer type: Unspecified Cancer

Variant class: BRAF mutation

Other identifiers: 2013C0115, 9458, NCI-2013-02343, OSU 13197, OSU-13197, TrialTroveID-199440

Population segments: Adjuvant, CNS mets, Stage IV

Phase: I

Therapies: trametinib + radiation therapy, trametinib + surgical intervention

Location: United States

US States: IL, OH

US Contact: Multiple contacts: See www.clinicaltrials.gov for complete list of contacts.

NCT02857270

A Phase I Study of an ERK1/2 Inhibitor (LY3214996) Administered Alone or in Combination With Other Agents in Advanced Cancer

Cancer type: Unspecified Cancer

Variant class: RAS/RAF/MEK/ERK pathway

Other identifiers: 16419, EudraCT Number: 2016-001907-21, I8S-MC-JUAB, TrialTroveID-280743

Population segments: Second line or greater/Refractory/Relapsed, Stage III, Stage IV

Phase: I

Therapies: abemaciclib + LY3214996, LY3214996, LY3214996 + chemotherapy, LY3214996 + midazolam

Location: United States

US State: TN

US Contact: Eli Lilly and Company [877-285-4559]

NCT02243917

A Phase 1, Open-Label, Dose Escalation and Dose Expansion Study Evaluating the Safety, Pharmacokinetics, Pharmacodynamics, and Clinical Effects of Orally Administered CB-5083 in Subjects With Advanced Solid Tumors

Cancer type: Unspecified Solid Tumor

Variant class: RAS/RAF/MEK/ERK pathway

Other identifiers: 149511, CLC-101, TrialTroveID-216163

Population segments: Second line or greater/Refractory/Relapsed, Stage II, Stage III, Stage IV

Phase: I

Therapy: CB-5083

Location: United States

US States: AZ, CA, CO, GA, PA

US Contact: Multiple contacts: See www.clinicaltrials.gov for complete list of contacts.

BRAF p.(G469A) c.1406G>C (continued)**NCT02711345**

A Phase I Dose Finding Study of Oral LTT462 in Adult Patients With Advanced Solid Tumors Harboring MAPK Pathway Alterations

Cancer type: Unspecified Solid Tumor

Variant class: RAS/RAF/MEK/ERK pathway

Other identifiers: CLTT462X2101, EudraCT number: 2015-003614-24, NCI-2016-00539, TrialTroveID-275107

Population segments: First line, KRAS, Second line or greater/Refractory/Relapsed, Stage III, Stage IV

Phase: I

Therapy: LTT-462

Locations: Germany, Japan, Singapore, Spain, Switzerland, United States

US States: NY, TX

US Contact: Novartis Pharmaceuticals [888-669-6682]

NCT02607813

A Phase I Dose Finding Study of Oral LXH254 in Adult Patients With Advanced Solid Tumors Harboring MAPK Pathway Alterations

Cancer type: Unspecified Solid Tumor

Variant class: RAS/RAF/MEK/ERK pathway

Other identifiers: 2015-0913, CLXH254X2101, EudraCT Number: 2015-003421-33, NCI-2015-02280, REec-2016-2132, TrialTroveID-268216

Population segments: Second line or greater/Refractory/Relapsed, Stage III, Stage IV

Phase: I

Therapy: LXH254

Locations: Canada, Germany, Japan, Netherlands, Republic of Korea, Spain, Switzerland, United States

US States: NY, TX

US Contact: Novartis Pharmaceuticals [888-669-6682]

PIK3CA p.(N345K) c.1035T>A

No NCT ID - see other identifier(s)
Molecular selection of therapy in metastatic colorectal cancer: a molecularly stratified randomised controlled trial programme

Cancer type: Colorectal Cancer

Variant class: PIK3CA mutation

Other identifiers: 14893, CR13, CRUK/11/054, EudraCT Number: 2012-005111-12, FOCUS-4, FOCUS4, IRAS ID 119459, ISRCTN90061546, MREC N° 13/SC/0111, TrialTroveID-187137, UKCRN ID: 14893

Population segments: First line, Stage III, Stage IV

Phase: II/III

Therapies: MEK inhibitor + PIK3/mTOR inhibitor, PIK3/mTOR inhibitor

Location: United Kingdom

PIK3CA p.(N345K) c.1035T>A (continued)**NCT02861300**

Phase I/II Study of CB-839 and Capecitabine in Patients With Advanced Solid Tumors and Fluoropyrimidine Resistant PIK3CA Mutant Colorectal Cancer

Cancer type: Colorectal Cancer

Variant class: PIK3CA mutation

Other identifiers: CASE1216, TrialTroveID-277009

Population segments: Second line or greater/Refractory/Relapsed, Stage III, Stage IV

Phase: I/II

Therapy: CB-839 + chemotherapy

Location: United States

US State: OH

US Contact: Dr. Jennifer Eads [216-844-6031; jennifer.eads@uhhospitals.org]

NCT02583542

A Phase Ib/IIa Study of AZD2014 in Combination With Selumetinib in Patients With Advanced Cancers.

Cancer type: Colorectal Cancer

Variant class: PI3K/AKT/MTOR pathway

Other identifiers: 009896QM, EudraCT Number: 2014-002613-31, IRAS ID 172356, Torcmek, TrialTroveID-265019, UKCRN ID:18725

Population segments: EGFR, FGFR, HER2 negative, HER2 positive, KRAS, Second line or greater/Refractory/Relapsed, Squamous Cell, Stage III, Stage IV, Triple receptor negative

Phase: I/II

Therapy: selumetinib + vistusertib

Location: United Kingdom

NCT02576444

A Phase II Study of the PARP Inhibitor Olaparib (AZD2281) Alone and in Combination With AZD1775, AZD5363, or AZD2014 in Advanced Solid Tumors

Cancer type: Unspecified Solid Tumor

Variant class: PIK3CA mutation

Other identifiers: 1508016363, OLAPCO, TrialTroveID-266161

Population segments: First line, Second line or greater/Refractory/Relapsed, Stage IV

Phase: II

Therapy: AZD-5363 + olaparib

Location: United States

US States: CT, MA

US Contact: Multiple contacts: See www.clinicaltrials.gov for complete list of contacts.

PIK3CA p.(N345K) c.1035T>A (continued)**NCT02029001**

A Two-period, Multicenter, Randomized, Open-label, Phase II Study Evaluating the Clinical Benefit of a Maintenance Treatment Targeting Tumor Molecular Alterations in Patients With Progressive Locally-advanced or Metastatic Solid Tumors MOST: My own specific treatment

Cancer type: Unspecified Solid Tumor

Variant class: PIK3CA mutation

Other identifiers: ET12-081, EudraCT number: 2012-004510-34, MOST, ProfiLER, TrialTroveID-200294

Population segments: Maintenance/Consolidation, Second line or greater/Refractory/Relapsed, Stage III, Stage IV

Phase: II

Therapy: everolimus

Location: France

NCT02449538

Study to Evaluate the Safety and Efficacy of Everolimus, in Subjects With PIK3CA Amplification, PTEN Loss and PIK3CA Mutation Refractory Solid Tumors

Cancer type: Unspecified Solid Tumor

Variant class: PIK3CA mutation

Other identifiers: 2015-01-117, TrialTroveID-257722

Population segments: (N/A), Second line or greater/Refractory/Relapsed

Exclusion criteria variant classes: BRAF V600 mutation, KRAS G12 mutation, KRAS G13 mutation

Phase: II

Therapy: everolimus

Location: Republic of Korea

NCT02449564

The Pilot Study Evaluate the Safety and Efficacy of Sirolimus in Patients With PIK3CA Mutation and/or PIK3CA Amplification Refractory Solid Tumors

Cancer type: Unspecified Solid Tumor

Variant class: PIK3CA mutation

Other identifiers: 2014-10-030, TrialTroveID-257741

Population segments: (N/A), Second line or greater/Refractory/Relapsed

Phase: II

Therapy: sirolimus

Location: Republic of Korea

PIK3CA p.(N345K) c.1035T>A (continued)**NCT02465060**

Molecular Analysis for Therapy Choice (MATCH)

Cancer type: Unspecified Solid Tumor

Variant class: PIK3CA mutation

Other identifiers: 15-7002, CTSU/EAY131, EAY131, EAY131-A, EAY131-B, EAY131-E, EAY131-F, EAY131-G, EAY131-H, EAY131-I, EAY131-MATCH, EAY131-N, EAY131-P, EAY131-Q, EAY131-R, EAY131-S1, EAY131-S2, EAY131-T, EAY131-U, EAY131-V, EAY131-X, ECOGEAY131-M, MATCH, NCI-2015-00054, NCI-MATCH, TrialTroveID-258747**Population segments:** (N/A), Aggressive, ALK, Classical, EGFR, HER2 positive, Indolent, Nodular lymphocyte-predominant, Second line or greater/Refractory/Relapsed, Stage III, Stage IV**Exclusion criteria variant classes:** PTEN deletion, RAS mutation**Phase:** II**Therapy:** taselisib**Location:** United States**US States:** AK, AL, AR, AZ, CA, CO, CT, DC, DE, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OK, OR, PA, RI, SC, SD, TN, TX, UT, VA, WA, WI, WV, WY**US Contact:** Multiple contacts: See www.clinicaltrials.gov for complete list of contacts.**NCT02961283**

A Phase I, Open-label, Dose-finding and Cohort Expansion Study of ASN003 in Subjects With Advanced Solid Tumors

Cancer type: Unspecified Solid Tumor

Variant class: PIK3CA mutation

Other identifiers: ASN003-101, TrialTroveID-290434**Population segments:** Second line or greater/Refractory/Relapsed, Stage III, Stage IV**Phase:** I/II**Therapy:** ASN-003**Location:** United States**US State:** TX**US Contact:** Multiple contacts: See www.clinicaltrials.gov for complete list of contacts.

PIK3CA p.(N345K) c.1035T>A (continued)**NCT02389842**

PIPA: A Phase Ib Study to Assess the Safety, Tolerability and Efficacy of the PI3K Inhibitors, Taselisib (GDC-0032) or Pictilisib (GDC-0941), in Combination With Palbociclib, With the Subsequent Addition of Fulvestrant in PIK3CA-mutant Breast Cancers

Cancer type: Unspecified Solid Tumor

Variant class: PIK3CA mutation

Other identifiers: CCR4191, EudraCT Number: 2014-002658-37, IRAS ID 159997, PIPA, TrialTroveID-253778

Population segments: HER2 negative, Second line or greater/Refractory/Relapsed, Stage III, Stage IV

Phase: I

Therapies: palbociclib + pictilisib, palbociclib + taselisib

Location: United Kingdom

NCT01971515

A Phase I, First-in-Human, Dose Escalation Trial of MSC2363318A, a Dual p70S6K/Akt Inhibitor, in Subjects With Advanced Malignancies

Cancer type: Unspecified Solid Tumor

Variant class: PIK3CA aberration

Other identifiers: 2013-0525, CHRMS 14-081, EMR100018-001, NCI-2013-02370, TrialTroveID-196334

Population segments: Aggressive, Classical, EGFR, HER2 positive, Indolent, Nodular lymphocyte-predominant, Second line or greater/Refractory/Relapsed, Stage III, Stage IV

Exclusion criteria variant classes: AKT2 amplification, AKT2 mutation

Phase: I

Therapy: MSC-2363318A

Location: United States

US States: AL, CA, FL, MI, NY, TX, VT

US Contact: US Medical Information [888-275-7376]

NCT02338622

A Phase I Multi-centre Trial of the Combination of Olaparib (PARP Inhibitor) and AZD5363 (AKT Inhibitor) in Patients With Advanced Solid Tumours

Cancer type: Unspecified Solid Tumor

Variant class: PI3K/AKT/MTOR pathway

Other identifiers: 14/LO/0103, CCR4058, ComPAKT, CRUKD/14/004, EudraCT number: 2013-004692-13, TrialTroveID-213474, UKCRN ID 16550

Population segments: HER2 negative, Hormone refractory, Second line or greater/Refractory/Relapsed, Stage III, Stage IV, Triple receptor negative

Phase: I

Therapy: AZD-5363 + olaparib

Location: United Kingdom

PIK3CA p.(N345K) c.1035T>A (continued)**NCT02483858**

Phase I Study of Oral PQR309 in Patients With Advanced Solid Tumors.

Cancer type: Unspecified Solid Tumor**Variant class:** PI3K/AKT/MTOR pathway**Other identifiers:** EudraCT Number: 2015-003919-38, I 258914, IRAS ID: 193390, PQR309-003, REec-2016-2264, TrialTroveID-260655**Population segments:** Second line or greater/Refractory/Relapsed, Stage III, Stage IV**Phase:** I**Therapy:** PQR-309**Location:** United States**US State:** NY**US Contact:** Dr. Alex Adjei [Alex.Adjei@RoswellPark.org]

Appendix: 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.

TP53 p.(G245D) c.734G>A

| Variant Class | Evidence Items |
|---------------|----------------|
| TP53 mutation | 5 |

BRAF p.(G469A) c.1406G>C

| Variant Class | Evidence Items |
|----------------------------|----------------|
| RAS/RAF/MEK/ERK pathway | 5 |
| ↳ RAF aberration | 1 |
| ↳ RAF mutation | 1 |
| ↳ BRAF mutation | 18 |
| ↳ BRAF activating mutation | 0 |
| RAS/RAF/MEK/ERK pathway | 5 |
| ↳ RAF aberration | 1 |
| ↳ RAF mutation | 1 |
| ↳ BRAF mutation | 18 |
| ↳ BRAF exon 11 mutation | 0 |

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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.

Appendix: 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.

PIK3CA p.(N345K) c.1035T>A

| Variant Class | Evidence Items |
|-------------------------|----------------|
| PI3K/AKT/MTOR pathway | 3 |
| ↳ PIK3CA aberration | 1 |
| ↳ PIK3CA mutation | 9 |
| ↳ PIK3CA N345K mutation | 0 |

Appendix: Variant Details

DNA Sequence Variants

| Gene | Amino Acid Change | Coding | Variant ID | Allele Frequency Transcript | Variant Effect | Gene Class | Variant Class |
|--------|-------------------|-----------|------------|--------------------------------|----------------|------------------|---------------|
| BRAF | p.(G469A) | c.1406G>C | COSM460 | 33.17% NM_004333.4 | missense | Gain of Function | Hotspot |
| PIK3CA | p.(N345K) | c.1035T>A | COSM754 | 29.00% NM_006218.2 | missense | Gain of Function | Hotspot |
| TP53 | p.(G245D) | c.734G>A | COSM43606 | 44.77% NM_000546.5 | missense | Loss of Function | Hotspot |

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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.

Terms and Conditions

The following paragraph on Liability is an extract from the Oncologica Tests' Terms and Conditions. The extract is to draw your attention to particular terms applicable to you but nothing set out here is intended to supersede or override our Terms and Conditions, which can be found on our website at www.oncologica.com under the title Oncologica Tests' Terms and Conditions. Please read these Oncologica Test Terms and Conditions carefully before you submit an order for the Oncologica Tests, as you will be bound by these Terms and Conditions, once a contract comes into existence as per paragraph 2 of the Oncologica Test's Terms and Conditions.

6. Liability

6.1 Oncologica operates in compliance with international ISO15189:2012 standards and is regulated by UKAS. The Oncologica Tests have not been cleared or approved by the United States Food and Drug Administration; however, such clearance or approval is not required.

6.2 The Patient agrees that the Oncologica Test Report is intended for clinical use and interpretation by a physician who is experienced and skilled in the use and interpretation of clinical test data. The Oncologica Test Report is based on the Sample submitted by the Patient. The Oncologica Test Report should not be considered or its contents applied to any other patient or any other sample. Oncologica does not update an Oncologica Test Report once it has been sent.

6.3 Information compiled in the Oncologica Test Report includes is from publicly available as well as proprietary sources. By updating the source database, Oncologica makes every effort to provide the most accurate and up-to-date information. However, Oncologica does not warrant or represent that the information in the Oncologica Test Report is accurate, timely or complete.

6.4 The Oncologica Test Report contains drug and clinical trial information. However, Oncologica does not warrant or represent that any drug or clinical trial identified by the Oncologica Test will guarantee a therapeutic response for a particular Patient. The drugs listed in an Oncologica Test Report are ranked on clinical evidence as to the predicted efficacy or appropriateness for the Patient. The Patient shall ensure that its physician shall evaluate and interpret the Oncologica Test Report, along with all other available clinical information about the Patient, to determine the best treatment decisions in their own independent medical judgment. Patient management decisions should not be based on a single test, nor solely on the information contained in the Oncologica Test Report.

6.5 Subject to paragraph 6.10, Oncologica shall have no liability for any use made of the information provided in the Oncologica Test Report, including but not limited to any report prepared by Oncologica summarising the results of the Oncologica Tests, any advice supplied by Oncologica, any decisions taken, or for any costs incurred by Patient and/or the Patient's physician and/or the Agent in consequence of such use, advice or decisions. The Oncologica Test and/or the Oncologica Test Report is not a substitute for the Patient's physician's professional judgment. The use of the information provided in the Oncologica Test Report is provided as a tool for the ordering physician's use in determining the appropriate treatment for the Patient. The decision as to what course of treatment and the appropriate use of the information provided by the Oncologica Test Report is solely that of the Patient's physician.

6.6 Oncologica does not warrant or represent or guarantee that the Oncologica Tests will identify an actionable genetic alteration that is linked to anti-cancer targeted therapies. Although the Oncologica Tests are comprehensive, in a proportion of Patients, the Oncologica Test result may not identify any actionable mutations for a patient's cancer. In the event that no actionable alteration in the Sample is identified by the Oncologica Test, then the Patient is still under full obligation to pay the Charges and no refund is available to the Patient and/or Agent.

6.7 The Oncologica Test identifies genomic actionable alterations found in the submitted Sample that are linked to anti-cancer targeted agents. Also note that this test only examines tumour, and not normal tissue from the patient, and therefore cannot distinguish between somatic and germline (i.e., heritable) alterations.

6.8 Subject to Clause 6.8, Oncologica shall not be liable to the Patient whether in contract, tort (including negligence and breach of statutory duty), or otherwise for any:

- (a) Error or defect in the Oncologica Test Report as a result of any inaccurate or incomplete information supplied by the Patient;
- (b) Loss of data or materials, including the Sample and/or the Report and including any loss arising as a result of the acts or omissions of a courier;
- (c) Indirect or consequential loss arising whether or not advised of the possibility of the same.

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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.

6.9 Subject to the provisions of this Clause 6, Oncologica's total liability to the Patient in respect of all losses arising under or in connection with the Contract, whether in contract, tort (including negligence and breach of statutory duty), or otherwise, shall in no circumstances exceed the Charges paid for the Test that is the subject of the claim.

6.10 Nothing in the Contract limits or excludes the liability of Oncologica for breach of its obligations under section 12 of the Sale of Goods Act 1979 and/or section 2 of the Supply of Goods and Services Act 1982; death or personal injury resulting from negligence; or fraud or fraudulent misrepresentation.

6.11 If the Patient is a consumer (and not a business), the Patient expressly acknowledges and agrees that the Test is supplied to the Patient's specification and therefore there is no right to cancel the Test following acceptance under Clause 2.2. If the Patient is a consumer, then notwithstanding any other provisions of the Contract, none of the Patient's consumer statutory rights are affected.

Report Signed by

Report Checked by



Clinical Scientist



Pathologist



BMS (Senior)



BMS



