**Supplementary methods**

***Eligibility criteria***

* Signed Informed Consent Form
* Age ≥ 18 years
* Histologically documented locally advanced or metastatic solid malignancy or non-Hodgkin’s lymphoma that has progressed or failed to respond to at least one prior regimen and are not candidates for regimens known to provide clinical benefit
* Patients with *PIK3CA*-mutant tumors based on results from archival or fresh tumor tissue, with tumor histology defined for the following sub-cohorts:
  + X1: endometrial cancer
  + X2: bladder cancer
  + X3: HNSCC
    - 10−20 patients with *PIK3CA* mutant HNSCC, regardless of *PIK3CA* copy number status, by local or central testing
    - 10−20 patients with HNSCC with amplification of the *PIK3CA* gene and no *PIK3CA* somatic mutations detected, by local or central testing
    - A minimum of 5 patients in Cohort X3 must consent to undergo paired pre-treatment and on-treatment tumor biopsies.
  + X4: cervical cancer
  + X5: gastric and gastroesophageal junction cancer
  + X6: small cell lung cancer (closed)
  + X7: triple-negative (HER2-negative, ER-negative, PR-negative) breast cancer, as defined by local guidelines
  + X8: colorectal cancer, excluding *KRAS* mutant
  + X9: squamous cell cancer, excluding any histology in Cohorts X1−X8 and X10 and NSCLC
  + X10: ovarian cancer, including clear cell
  + X11: *PIK3CA*-mutant cancer not otherwise specified in Cohorts X1−X10 and excluding breast, NSCLC, and colorectal cancer. SCLC is allowed in Cohort X11.
  + Patients may be enrolled on the basis of local or central test results that indicate a *PIK3CA* mutation *or* amplification. A copy of the local *PIK3CA* gene mutation or amplification report must be submitted for review by the Medical Monitor prior to enrollment.
  + All patients must consent to providing a formalin-fixed paraffin-embedded block or a minimum of 10 freshly cut unstained tumor slides (submission of 15−20 is strongly encouraged) from archival tumor tissue or a newly collected (“fresh”) tumor sample for *PIK3CA*-mutation and copy numbertesting as well as for other protocol-mandated exploratory assessments. When tissue is available from more than one source (e.g., primary tumor or metastatic sites), preference should be given to the tissue that was most recently collected.
  + Tumor tissue should be of good quality based on total and viable tumor content (refer to the Laboratory Manual). Evaluation of the patient’s tumor sample for adequate tumor-tissue content by a central laboratory must occur prior to initiation of study treatment.
  + For Cohort X8, determination of *KRAS* wild-type status is required prior to initiation of study treatment per local institutional guidelines or central testing.
* Measurable disease per RECIST v1.1
* ECOG performance status of 0 or 1 at screening
* Life expectancy of ≥ 12 weeks
* Adequate hematologic and organ function within 28days prior to initiation of study treatment, defined by the following:
  + Granulocyte count ≥ 1500/μL
  + Hemoglobin ≥ 9 g/dL
  + Platelet count ≥ 100,000/μL
  + Fasting glucose ≤ 120 mg/dL
  + Total bilirubin ≤ 1.5 × ULN
  + Patients with known Gilbert’s disease who have serum bilirubin ≤ 3 × ULN may be enrolled.
  + Serum albumin ≥ 2.5 g/dL
  + AST *and* ALT ≤ 1.5 × ULN with the following exception:
    - Patients with documented liver metastases may have AST and/or ALT ≤ 5.0 × ULN.
* Serum creatinine ≤ 1.5 × ULN or creatinine clearance ≥ 50 mL/min on the basis of the Cockcroft−Gault glomerular filtration rate estimation:
* International normalized ratio (INR) < 1.5 × ULN and activated partial thromboplastin time (aPTT) < 1.5 × ULN
* For patients requiring anticoagulation therapy with warfarin, a stable INR between 2−3 is required. If anticoagulation is required for a prosthetic heart valve, then INR should be between 2.5−3.5.
* Documented willingness to use an effective means of contraception (e.g., abstinence, hormonal or double barrier method, surgically sterilized partner; if using hormonal means of contraception, then a second means of contraception must be used) for both men and women while participating in the study and for 90 days after the last dose of taselisib
* Willingness to provide archival tumor tissue

***Exclusion criteria***

* Leptomeningeal disease as the only manifestation of the current malignancy
* Type 1 or 2 diabetes requiring anti-hyperglycemic medication
* Inability or unwillingness to swallow pills, except for patients with HNSCC (Cohort X3)
  + Patients with head and neck cancer with gastrostomy tubes are eligible to take taselisib as a suspension, only at sites where administration of the extemporaneous suspension is approved by the institutional review board/ethics committee.
* Malabsorption syndrome or other condition that would interfere with enteral absorption
* Known and untreated, or active CNS metastases (progressing or requiring anticonvulsants for symptomatic control)
  + Patients with a history of treated CNS metastases are eligible, provided they meet all of the following criteria:
    - Disease outside the CNS is present.
    - No evidence of interim progression between the completion of CNS-directed therapy and the screening radiographic study
    - No history of intracranial hemorrhage or spinal cord haemorrhage
    - Minimum of 2 weeks between completion of radiotherapy and Cycle 1 Day 1 and recovery from significant (Grade ≥ 3) acute toxicity with no ongoing requirement for ≥ 10 mg of prednisone per day or an equivalent dose of other corticosteroid
* Congenital long QT syndrome or QTc > 500 msec
* Active congestive heart failure or ventricular arrhythmia requiring medication
* Uncontrolled ascites requiring weekly large-volume paracentesis for 3 consecutive weeks prior to initiation of study treatment
* Active infection requiring intravenous antibiotics
* Patients requiring any daily supplemental oxygen
* Active inflammatory diseases that require immunosuppressants, including small or large intestine inflammation such as Crohn’s disease or ulcerative colitis
  + Patients currently receiving immunosuppressants (e.g., sulfasalazines) are considered to have active disease and are, therefore, ineligible.
* Symptomatic hypercalcemia requiring continued use of bisphosphonate or denosumab therapy
* Clinically significant history of liver disease, including viral or other hepatitis, current alcohol abuse, or cirrhosis
* Known human immunodeficiency virus infection
* Any other diseases, active or uncontrolled pulmonary dysfunction, metabolic dysfunction, physical examination finding, or clinical laboratory finding giving reasonable suspicion of a disease or condition that contraindicates the use of an investigational drug, that may affect the interpretation of the results, or renders the patients at high risk from treatment complications (examples include but are not limited to clinically significant non-healing wound, active bleeding, or ongoing fistula or active tuberculosis infection)
* Significant traumatic injury within 3 weeks prior to initiation of taselisib
* Major surgical procedure within 4 weeks prior to initiation of taselisib
* Treatment with chemotherapy, corticosteroids,hormonal therapy (except GnRH agonists or antagonists for prostate cancer, or oral endocrine therapy), immunotherapy, or biologic therapy as cancer therapy within 3 weeks prior to initiation of study treatment.
* Oral endocrine therapy (e.g., tamoxifen, letrozole, anastrozole, exemestane) within 2 weeks prior to initiation of study treatment.
* Kinase inhibitors, approved by regulatory authorities, may be used up to 2 weeks prior to initiation of taselisib, provided that any drug-related toxicity has completely resolved and prior approval is obtained from the Medical Monitor.
* Prior treatment with a PI3-kinase inhibitor in which the patient experienced a Grade ≥ 3 drug-related adverse event or otherwise would be at increased risk for additional PI3K-related toxicity
* Palliative radiation to bony metastases within 2 weeks prior to initiation of taselisib
* Radiation therapy (other than palliative radiation to bony metastases) as cancer therapy within 4 weeks prior to initiation of taselisib
* Treatment with an investigational agent within 3 weeks or 5 half-lives prior to initiation of taselisib, whichever is shorter
* Unresolved toxicity from prior therapy, except for alopecia and Grade 1 peripheral neuropathy
* Pregnancy or lactation
* Women of childbearing potential (including those who have had a tubal ligation) must have a documented negative pregnancy test within 28 days prior to initiation of taselisib.
* Inability to comply with study and follow-up procedures.

***Dose reductions***

Dose reductions were performed according to the protocol to the following dose levels: 4 mg daily, 2 mg daily, and 2 mg every other day. Study treatment was discontinued at disease progression, unless under special circumstances, or at unacceptable toxicity.