SUPPLEMENTAL DIGITAL CONTENT 1

Study 10 and ARIEL2 investigators

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Supplementary methods

Constituent study designs

Study 10 Part 1 enrolled patients with a relapsed advanced solid tumor (a known *BRCA1* or *BRCA2* mutation was not required) and established rucaparib 600 mg twice daily as the recommended dose for phase 2 and phase 3 evaluation. Study 10 Part 2A enrolled patients with platinum-sensitive (defined as disease progression ≥6 months after last dose of platinum), relapsed ovarian cancer and a germline *BRCA1* or *BRCA2* mutation (detected by local testing) who had received two to four prior therapies. Study 10 Part 2B enrolled patients with ovarian cancer with a germline or somatic *BRCA1* or *BRCA2* mutation (detected by local testing) who received three to four prior chemotherapy regimens. The inclusion criteria did not have a requirement regarding the time to progression following the most recent platinum-based treatment; thus, patients

with platinum-sensitive disease (disease progression ≥6 months after last platinum), platinum-resistant (disease progression <6 months after last platinum, with best response other than progressive disease), and platinum-refractory (best response of progressive disease on last platinum with progression-free interval <2 months) disease were allowed. Study 10 Part 3 enrolled patients with a relapsed solid tumor and a germline or somatic *BRCA1* or *BRCA2* mutation (detected by local or central testing) for assessment of the pharmacokinetic and safety profiles of a higher dose tablet of rucaparib.

ARIEL2 Part 1 enrolled patients who had received at least one prior platinum-based regimen and had platinum-sensitive disease. ARIEL2 Part 2 enrolled patients with relapsed high-grade ovarian cancer who had received at least three, but not more than four, prior chemotherapies and had a treatment-free interval of more than 6 months following first-line chemotherapy. Similar to Study 10 Part 2B, there was no inclusion criterion regarding platinum status; thus, patients in Part 2 could have platinum-sensitive, -resistant, or -refractory disease. Although a known *BRCA1* or *BRCA2* mutation was not required to enroll in ARIEL2, all tumor and blood samples were tested centrally for the presence of a germline or somatic *BRCA1* or *BRCA2* mutation.

Patients enrolled in the two clinical trials were aged 18 years or older, had an Eastern Cooperative Oncology Group performance status of 0 or 1, and had adequate organ function.

In Study 10 and ARIEL2, tumor assessments included appropriate imaging techniques (preferably computed tomography scans of chest, abdomen, and pelvis, with slice thickness per Response Evaluation Criteria In Solid Tumors version 1.1 [RECIST]); other methods (eg, magnetic resonance imaging or clinical examination) were utilized if

required. In Study 10, assessments were performed at screening, at the end of every 6 weeks (±7 days) of treatment until week 18, and every 9 weeks (±7 days) thereafter; if an initial complete or partial response was noted after week 18, confirmatory scans were performed 4 to 6 weeks later. In ARIEL2, assessments were performed at screening and at the end of every 8 weeks (±4 days) of treatment; however, for patients who had been on study for at least 18 months, the frequency of tumor assessments could be reduced to every 16 weeks (±2 weeks).

In both trials, grade 3 or 4 adverse events were managed with dose modification (treatment interruption and/or dose reduction) or treatment discontinuation. Patients received a starting dose of 600 mg twice daily, and doses were to be reduced in 120 mg twice daily increments down to 240 mg twice daily (Study 10 Parts 1 and 2A, ARIEL2 Part 1) or in 100 mg twice daily increments down to 300 mg twice daily (Study 10 Parts 2B and 3, ARIEL2 Part 2).

Integrated platinum-sensitive efficacy outcomes – secondary end points

The best response in the sum of target lesions was defined as the largest decrease in percentage change from baseline in the sum of the diameter(s) of all target lesions. The duration of response for any confirmed RECIST complete response or partial response was defined as the time from first response until the first date that progressive disease per RECIST was documented. The duration of response was analyzed using Kaplan-Meier methodology; data were censored at the date of the last postbaseline scan for patients who had an ongoing response. Progression-free survival was defined as the time from first dose to the first date that progressive disease per RECIST was documented or death due to any cause; progression-free survival was also analyzed

using Kaplan-Meier methodology, with data censored at the last postbaseline scan for patients without documented progressive disease or death.