

**SUPPLEMENTARY**

**Supplementary Information 1 (Table): Ongoing clinical phase III studies of selected inhibitors of cell cycle proteins**

Inhibitor	Tumour type	Treatment arms	Timeline	Study name and estimated enrolment (N)
Palbociclib (PD0332991)	• Breast cancer (advanced, ER+ HER2-, first-line treatment)	• Palbociclib + letrozole • Placebo + letrozole	• Status: active • Study start: February 2013 • EPC: February 2016 • ESC: February 2017	• PALOMA-2 • NCT01740427 • N=650
	• Breast cancer (metastatic, ER+ HER2-, after hormone therapy failure)	• Palbociclib + fulvestrant • Placebo + fulvestrant	• Status: active • Study start: September 2013 • EPC: December 2014 • ESC: January 2017	• PALOMA-3 • NCT01942135 • N=427
	• Breast cancer (ER+ HER2-, with high relapse risk after neoadjuvant chemotherapy)	• Palbociclib + tamoxifen/aromatase inhibitor • Placebo + tamoxifen/aromatase inhibitor	• Status: recruiting • Study start: November 2013 • EPC: December 2020 • ESC: November 2023	• PENELOPE-B • NCT01864746 • N=1,100
	• Breast cancer (metastatic, ER+ HER2-, resistant to non-steroidal aromatase inhibitors)	• Palbociclib + exemestane • Capecitabine	• Status: recruiting • Study start: March 2014 • EPC: January 2018 • ESC: January 2018	• PEARL • NCT02028507 • N=348
	• Squamous cell lung cancer (recurrent, stage IIIB-IV)	Part C: • Palbociclib • Docetaxel	• Status: recruiting • Study start: June 2014 • EPC: April 2022 • ESC: NA	• Lung-MAP • NCT02154490 • N=10,000 (parts A-E)
	• Breast cancer (advanced, ER+ HER2-, first-line treatment, Asian postmenopausal women)	• Palbociclib + letrozole • Placebo + letrozole	• Status: recruiting • Study start: March 2015 • EPC: October 2017 • ESC: October 2017	• PALOMA-4 • NCT02297438 • N=330
	• Breast cancer (early, ER+ HER2-)	• Palbociclib + hormone therapy • Placebo + hormone therapy	• Status: recruiting • Study start: August 2015 • EPC: September 2020 • ESC: September 2025	• PALLAS • NCT02513394 • N=4,600
	• Breast cancer (advanced, ER+ HER2-)	• Palbociclib + letrozole	• Status: recruiting • Study start: March 2016 • EPC: July 2019 • ESC: July 2019	• NCT02679755 • N=150
	• Breast cancer (advanced, ER+ HER2-, Mexican/Latin American postmenopausal women)	• Palbociclib + letrozole	• Status: recruiting • Study start: April 2016 • EPC: October 2018 • ESC: October 2018	• NCT02600923 • N=130
	• Breast cancer (advanced, ER+ HER2-, African American women)	• Palbociclib + letrozole	• Status: not yet recruiting • Study start: March 2016 • EPC: February 2018 • ESC: February 2018	• PALINA • NCT02692755 • N=35
Ribociclib (LEE011)	• Breast cancer (advanced, ER+ HER2-, first-line treatment, postmenopausal women)	• Ribociclib + letrozole • Placebo + letrozole	• Status: active • Study start: December 2013 • EPC: August 2019 • ESC: August 2019	• MONALEESA-2 • NCT01958021 • N=667
	• Breast cancer (advanced, ER+ HER2-, premenopausal women)	• Ribociclib + tamoxifen/ letrozole/ anastrozole + goserelin • Placebo + tamoxifen/ letrozole/ anastrozole + goserelin	• Status: recruiting • Study start: November 2014 • EPC: February 2018 • ESC: February 2018	• MONALEESA-7 • NCT02278120 • N=660
	• Breast cancer (advanced, ER+ HER2-, postmenopausal women, first/second-line treatment)	• Ribociclib + fulvestrant • Placebo + fulvestrant	• Status: recruiting • Study start: February 2015 • EPC: November 2016 • ESC: November 2016	• MONALEESA-3 • NCT02422615 • N=660
Abemaciclib (LY2835219)	• Breast cancer (advanced, ER+ HER2-)	• Abemaciclib + fulvestrant • Placebo + fulvestrant	• Status: active • Study start: July 2014 • EPC: February 2017	• MONARCH 2 • NCT02107703 • N=630

			<ul style="list-style-type: none"> <li>• ESC: February 2020</li> </ul>	
	<ul style="list-style-type: none"> <li>• Breast cancer (advanced, ER+ HER2-, first-line therapy, postmenopausal women)</li> </ul>	<ul style="list-style-type: none"> <li>• Abemaciclib + letrozole/ anastrozole</li> <li>• Placebo + letrozole/ anastrozole</li> </ul>	<ul style="list-style-type: none"> <li>• Status: active</li> <li>• Study start: November 2014</li> <li>• EPC: June 2017</li> <li>• ESC: July 2021</li> </ul>	<ul style="list-style-type: none"> <li>• MONARCH 3</li> <li>• NCT02246621</li> <li>• N=450</li> </ul>
	<ul style="list-style-type: none"> <li>• Non-small-cell lung cancer (stage IV, KRAS-mutant, progressed after platinum-based chemotherapy)</li> </ul>	<ul style="list-style-type: none"> <li>• Abemaciclib</li> <li>• Erlotinib</li> </ul>	<ul style="list-style-type: none"> <li>• Status: recruiting</li> <li>• Study start: September 2014</li> <li>• EPC: May 2017</li> <li>• ESC: May 2018</li> </ul>	<ul style="list-style-type: none"> <li>• JUNIPER</li> <li>• NCT02152631</li> <li>• N=550</li> </ul>
	<ul style="list-style-type: none"> <li>• Breast cancer (advanced, ER+ HER2-, postmenopausal women)</li> </ul>	<ul style="list-style-type: none"> <li>• Abemaciclib + letrozole/ anastrozole</li> <li>• Placebo + letrozole/ anastrozole</li> <li>• Abemaciclib + fulvestrant</li> <li>• Placebo + fulvestrant</li> </ul>	<ul style="list-style-type: none"> <li>• Status: not yet recruiting</li> <li>• Study start: October 2016</li> <li>• EPC: December 2019</li> <li>• ESC: December 2019</li> </ul>	<ul style="list-style-type: none"> <li>• NCT02763566</li> <li>• N=450</li> </ul>
<b>Rigosertib</b> (ON 01910.Na)	<ul style="list-style-type: none"> <li>• Myelodysplastic syndrome (with excess blasts, failed HMA treatment)</li> </ul>	<ul style="list-style-type: none"> <li>• Rigosertib</li> <li>• Best supportive care</li> </ul>	<ul style="list-style-type: none"> <li>• Status: active</li> <li>• Study start: November 2010</li> <li>• EPC: July 2016</li> <li>• ESC: November 2016</li> </ul>	<ul style="list-style-type: none"> <li>• ONTIME</li> <li>• NCT01241500</li> <li>• N=299</li> </ul>
	<ul style="list-style-type: none"> <li>• Myelodysplastic syndrome (progressed on or after HMA treatment)</li> </ul>	<ul style="list-style-type: none"> <li>• Rigosertib</li> </ul>	<ul style="list-style-type: none"> <li>• Status: active</li> <li>• Study start: August 2013</li> <li>• EPC: June 2016</li> <li>• ESC: December 2016</li> </ul>	<ul style="list-style-type: none"> <li>• NCT01928537</li> <li>• N=67</li> </ul>
	<ul style="list-style-type: none"> <li>• Myelodysplastic syndrome (after failure of HMA treatment)</li> </ul>	<ul style="list-style-type: none"> <li>• Rigosertib</li> <li>• Physician's choice of treatment</li> </ul>	<ul style="list-style-type: none"> <li>• Status: recruiting</li> <li>• Study start: October 2015</li> <li>• EPC: June 2018</li> <li>• ESC: September 2018</li> </ul>	<ul style="list-style-type: none"> <li>• INSPIRE</li> <li>• NCT02562443</li> <li>• N=225</li> </ul>
<b>Volasertib</b> (BI 6727)	<ul style="list-style-type: none"> <li>• Acute myeloid leukaemia (first-line treatment, ineligible for intensive treatment)</li> </ul>	<ul style="list-style-type: none"> <li>• Volasertib + cytarabine</li> <li>• Placebo + cytarabine</li> </ul>	<ul style="list-style-type: none"> <li>• Status: active</li> <li>• Study start: January 2013</li> <li>• EPC: August 2014</li> <li>• ESC: June 2016</li> </ul>	<ul style="list-style-type: none"> <li>• POLO-AML-2</li> <li>• NCT01721876</li> <li>• N=666</li> </ul>
<b>Alisertib</b> (MLN8237)	<ul style="list-style-type: none"> <li>• Peripheral T-cell lymphoma (relapsed or refractory)</li> </ul>	<ul style="list-style-type: none"> <li>• Alisertib</li> <li>• Pralatrexate or gemcitabine or romidepsin</li> </ul>	<ul style="list-style-type: none"> <li>• Status: active</li> <li>• Study start: June 2012</li> <li>• EPC: November 2016</li> <li>• ESC: February 2017</li> </ul>	<ul style="list-style-type: none"> <li>• NCT01482962</li> <li>• N=271</li> </ul>

Data obtained from <http://www.clinicaltrials.gov> (accessed: 26<sup>th</sup> August 2016). EPC, estimated primary completion. ER+ HER2-, oestrogen receptor or progesterone receptor expressing (ER+) and HER2 non-amplified (HER2-) breast cancer. ESC, estimated study completion. HMA, hypomethylating agents (azacitidine or decitabine). N, number of patients. NA, not available.