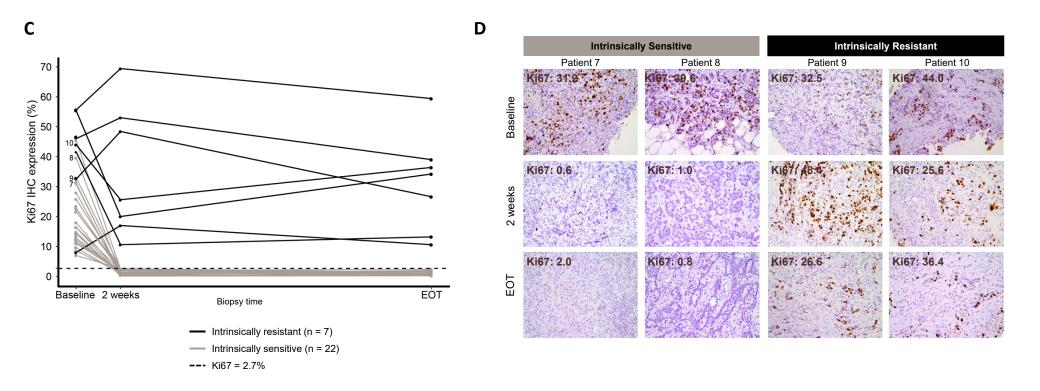


Supplementary Figure S2. Ki67 expression in patient tumor specimens A. Ki67 expression in ANZ treatment arm at baseline, 2 weeks after treatment with ANZ alone, and EOT after 14 weeks of combination therapy. All patients received abemaciclib+ANZ after 2 weeks of initial treatment. Data shown are from 19 tumors with available Ki67 IHC at all 3 timepoints. Ki67 IHC expression in tumor specimens was measured at baseline, 2 weeks after initial treatment with ANZ alone, and EOT after 14 weeks of combination therapy. Tumors were classified by ANZ sensitivity (n=5) and resistance (n=14) as: ANZ-sensitive tumors (n=5) were defined by an expression of Ki67 ≤2.7% at 2 weeks; ANZ-resistant/abemaciclib+ANZ-sensitive tumors (n=9) were defined by Ki67 ≥7.4% at 2 weeks, and Ki67 ≤2.7% at EOT; and ANZ-resistant/abemaciclib+ANZ-resistant tumors (n=5) were defined by Ki67 ≥7.4% at 2 weeks and at EOT. B. Ki67 staining by IHC on representative patient tumor specimens (indicated by patient 1-6 in Supplementary Figure S2A). Expression level of Ki67 is indicated for each tumor specimen. Images at 200x magnification.



Supplementary Figure S2C. Ki67 expression in patient tumor specimens at baseline, 2 weeks after initial treatment (abemaciclib+ANZ, abemaciclib, or ANZ), and EOT after 14 weeks of combination therapy. All patients received abemaciclib+ANZ after 2 weeks of initial treatment. Then patient tumors were classified by Ki67 expression as intrinsically resistant (Ki67  $\geq$ 7.4% at 2 weeks and EOT regardless of 2-week lead in; n = 7) or sensitive (Ki67  $\leq$ 2.7% at 2 weeks and EOT; n = 22) to therapy regardless of treatment. Numbers represent the patients 7-10 who have IHC staining shown in **Supplementary Figure S2D**. **D.** Ki67 staining by IHC on representative patient tumor specimens (indicated by patient 7-10 in **Supplementary Figure S2C**) ). Images at 200x magnification. Abbreviations: ANZ, anastrozole; EOT, end of treatment; IHC, immunohistochemistry; n, tumor specimens.