

Supplemental Table 1. Stopping rule boundaries for the incidence of patients with at least one severe or life-threatening toxicity. For example, the study would have been halted if 4 patients experienced a severe or life-threatening toxicity among the first 4 enrolled patients who received pembrolizumab and doxorubicin. If no more than 3 patients experienced a severe or life-threatening toxicity among the first 4 patients, the study would have been halted if a fifth patient experienced a severe or life-threatening toxicity among the first 6 enrolled patients. In our enrolled patients, 1 patient experienced a severe or life-threatening toxicity among the first 21 enrolled patients. No subsequent patients have experienced a stopping rule event as of data cut-off. Therefore, the criteria for stopping enrollment on this study was not met prior to completion of enrollment.

Cumulative Number of Patients with At Least One Severe or Life-Threatening Toxicity	Number of Treated Patients	Posterior Probability: $\Pr(\text{Risk} > 0.55 \text{Data})$	Observed Cumulative Number of Patients with At Least One Severe or Life-Threatening Toxicity
4	4	0.7834	0
5	6	0.7536	0
6	7	0.8056	0
7	9	0.7728	0
8	11	0.7694	0
9	13	0.7558	0
10	14	0.7944	0
11	16	0.7812	0
12	18	0.7592	0
13	19	0.8002	0
14	21	0.7818	1
15	23	0.7710	1
16	25	0.7594	1
17	26	0.7988	1
18	28	0.7828	1
19	30	0.7706	1