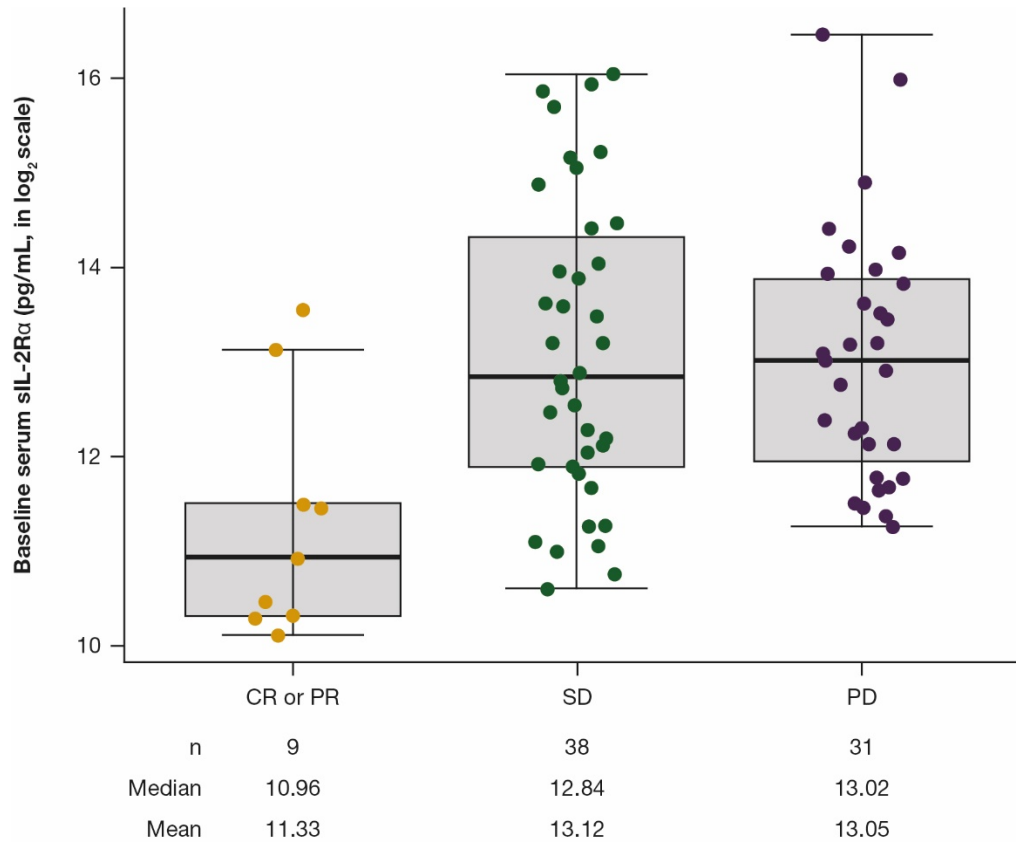


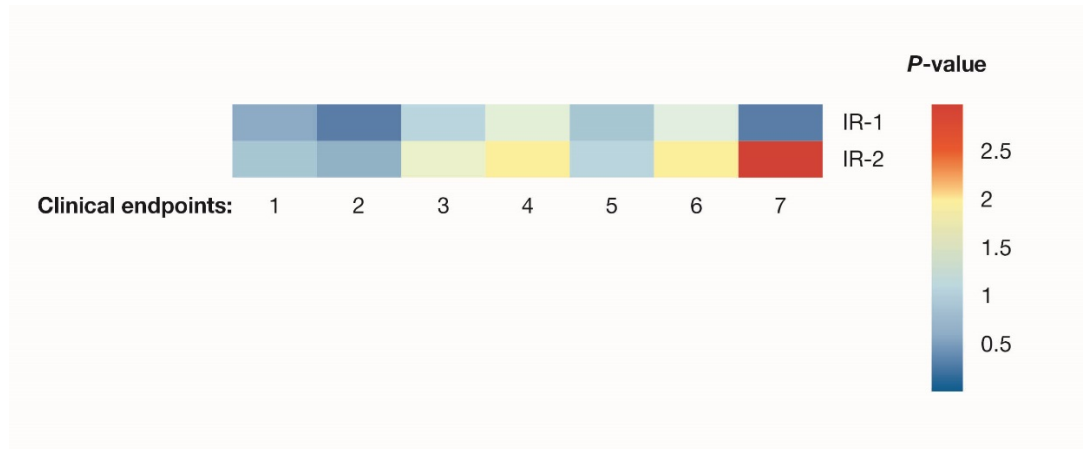
## Supplementary Appendix

**Figure S1.** Serum sIL-2R $\alpha$  levels at baseline by best overall response per investigator. CR, complete remission; PD, progressive disease; PR, partial remission; SD, stable disease.



**Figure S2.** EdgeSeq heat map of  $P$ -values for IR-1 and IR-2 signatures across clinical endpoints.

Colors in heat map tile indicate  $-\log_{10}$  transformed  $P$ -value. CR, complete remission; IR-1/2, immune-response 1/2; IRC, independent radiologic review committee; PD, progressive disease; PR, partial remission; SD, stable disease.



### Descriptions of clinical endpoints

1. Best tumor reduction from baseline as assessed by investigator; responders ( $<-25\%$ ;  $n = 10$ ) vs PD ( $\geq 25\%$ ;  $n = 21$ )
2. Best tumor reduction from baseline as assessed by IRC; responders ( $<-25\%$ ;  $n = 7$ ) vs PD ( $\geq 25\%$ ;  $n = 26$ )
3. Best overall response as assessed by investigator (CR or PR [ $n = 5$ ] vs PD [ $n = 24$ ])
4. Best overall response as assessed by investigator (CR, PR, or SD [ $n = 29$ ] vs PD [ $n = 24$ ])
5. Best overall response as assessed by IRC (CR, PR, or SD [ $n = 21$ ] vs PD [ $n = 32$ ])
6. Progression-free survival as assessed by investigator ( $n = 56$ )
7. Progression-free survival as assessed by IRC ( $n = 56$ )

**Table S1. Immune-mediated AEs by worst CTC grade**

<b>Immune-mediated AEs treated with immune-modulating medication</b>	<b>Patients, n (%)</b> <b>(N = 92)</b>	
	<b>Any grade</b>	<b>Grade 3–4*</b>
Rash	8 (9)	2 (2)
Diarrhea/colitis	2 (2)	2 (2)
Hypersensitivity/infusion reaction	2 (2)	1 (1)
Hepatitis	1 (1)	1 (1)
Pneumonitis	1 (1)	1 (1)

Includes adverse events (AEs) reported within 100 days after last dose of nivolumab. Grades reported at the onset of the AEs.

\*There were no grade 5 immune-mediated AEs.