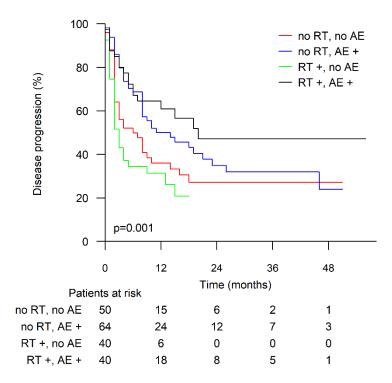
Supplementary Table 1. Median time to progression in different cancer types stratified by receipt of radiotherapy preceding immune checkpoint inhibitor treatment and occurrence of immune-related adverse events.

| Cancer type                       | Median time to progression, months |            |            |          | p (log<br>rank) |
|-----------------------------------|------------------------------------|------------|------------|----------|-----------------|
|                                   | no RT, no AE                       | RT+, no AE | no RT, AE+ | RT+, AE+ |                 |
| Cutaneous<br>melanoma             | 6.0                                | 3.0        | 14.0       | 20.0     | 0.001           |
| Non-small-<br>cell lung<br>cancer | 4.0                                | 3.0        | 5.0        | 10.0     | 0.015           |
| Renal cell carcinoma              | 3.0                                | 2.0        | 3.0        | 5.0      | 0.142           |
| Other cancers                     | 6.0                                | 2.0        | 8.0        | 5.0      | 0.570           |

RT, radiotherapy preceding immune checkpoint inhibitor treatment; AE, immune-related adverse event.

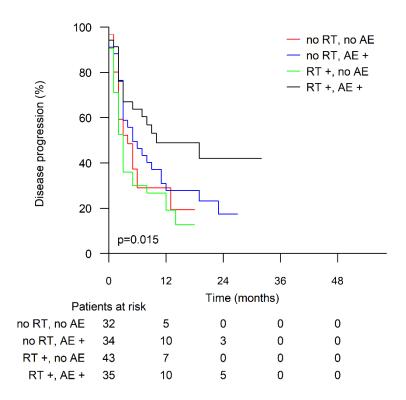
Supplementary Figure 1a-d. Time to progression by cancer type, stratified by receipt of radiotherapy preceding immune checkpoint inhibitor treatment and occurrence of immune-related adverse events.

a. Cutaneous melanoma.

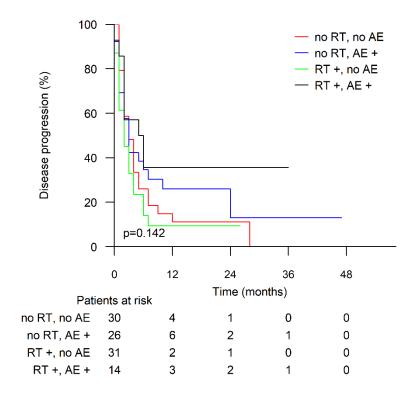


RT, radiotherapy preceding immune checkpoint inhibitor treatment; AE= immune-related adverse event.

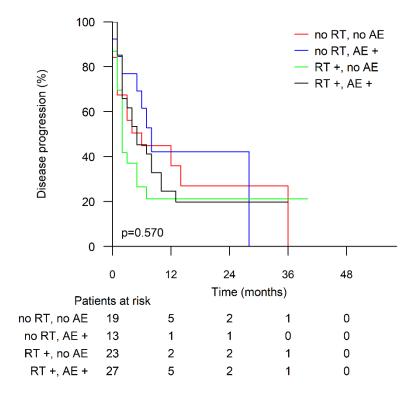
b. Non-small-cell lung cancer.



## c. Renal cell carcinoma.

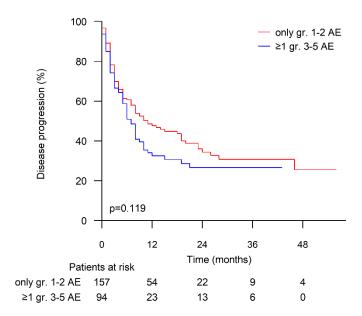


## d. Other cancers.

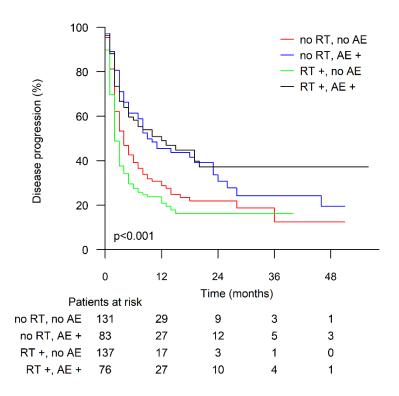


Supplementary Figure 2a. Effect of immune-related adverse event severity on time to progression (log rank p=0.119). 2b. Time to progression stratified by receipt of radiotherapy and occurrence of grade I-II immune-related adverse events (log rank p<0.001).

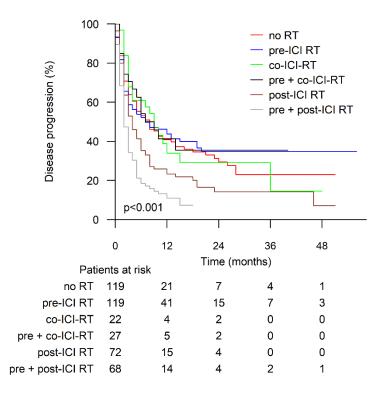
a.



b.



## Supplementary Figure 3. Time to progression stratified by radiotherapy timing (log rank p<0.001).



RT, radiotherapy; pre-ICI, preceding immune checkpoint inhibitor treatment start; co-ICI, concomitantly with ICI; post-ICI, after ICI treatment discontinuation.