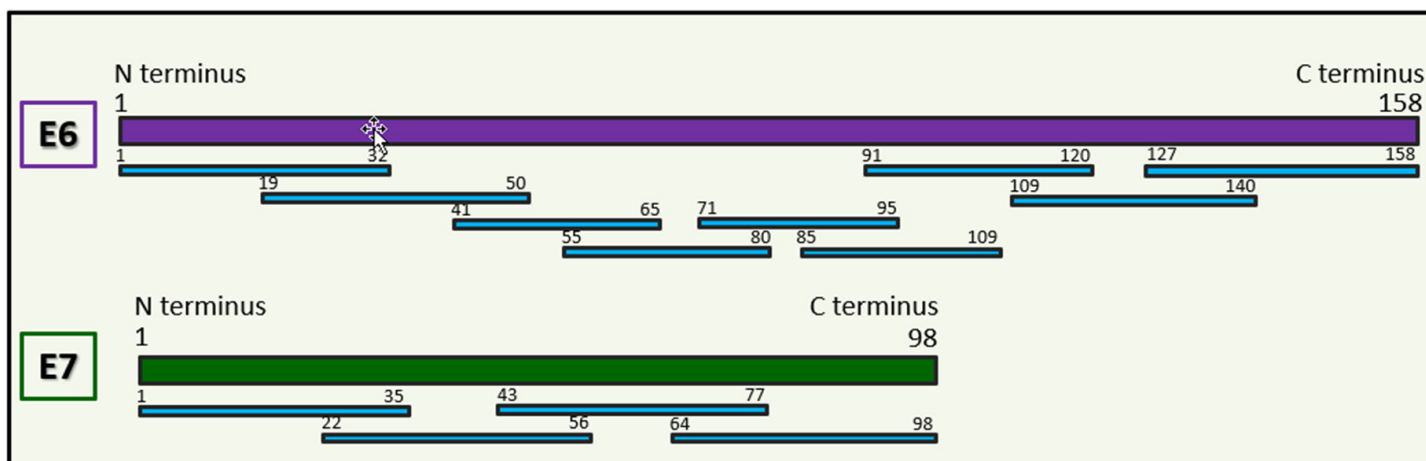


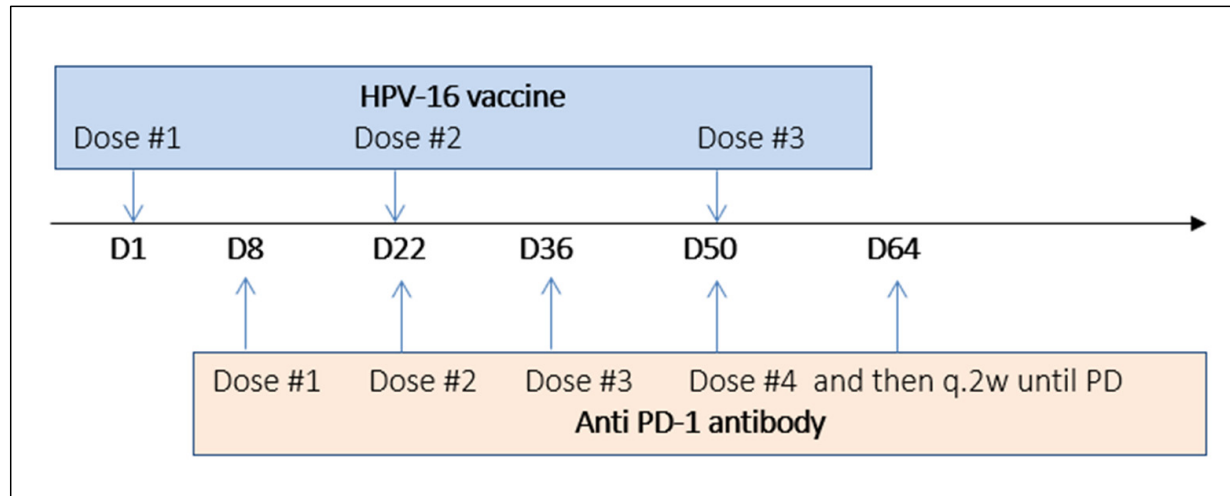
# SUPPLEMENTARY MATERIALS

Supplementary Figure 1



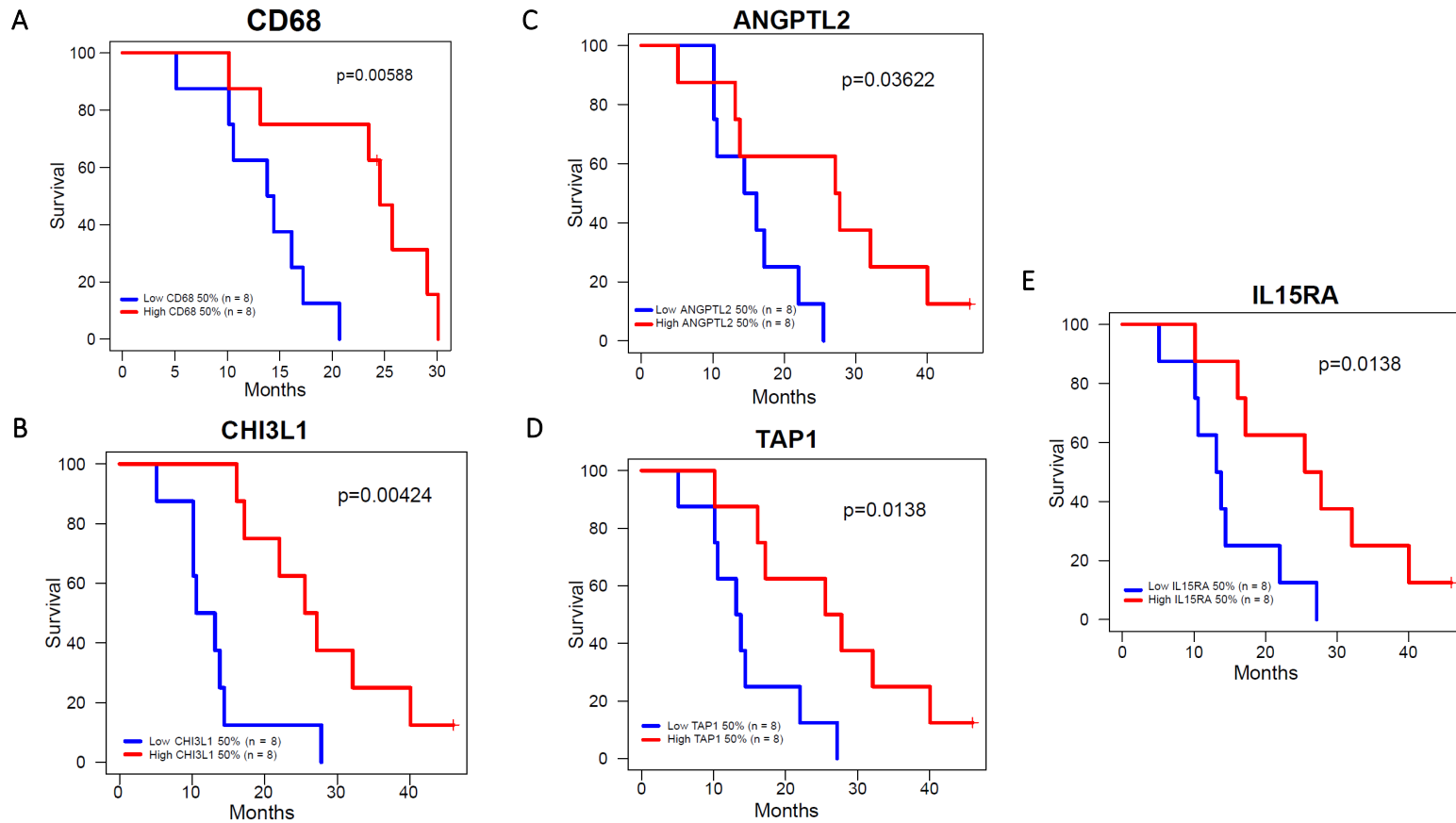
ISA 101 synthetic long peptide HPV E6/E7 vaccine consists of 9 overlapping long E6 peptides and 4 overlapping long E7 peptides.

## Supplementary Figure 2



**Study Design.** ISA101, 100  $\mu\text{g}$ /peptide in Montanide adjuvant (Seppic) subcutaneously, for a total of 3 doses on days 1, 22, and 50 and nivolumab, 3 mg/kg intravenously, starting on day 8 administered every 2 weeks for a total of 12 months or progression of disease, toxic effects, or withdrawal of consent

## Supplementary Figure 3



Kaplan-Meier Survival Curve for patients according to CD68, CHI3L1, ANGPTL2, TAP1, and IL15RA expression (bottom 50% vs top 50%).

## Supplementary Table 1

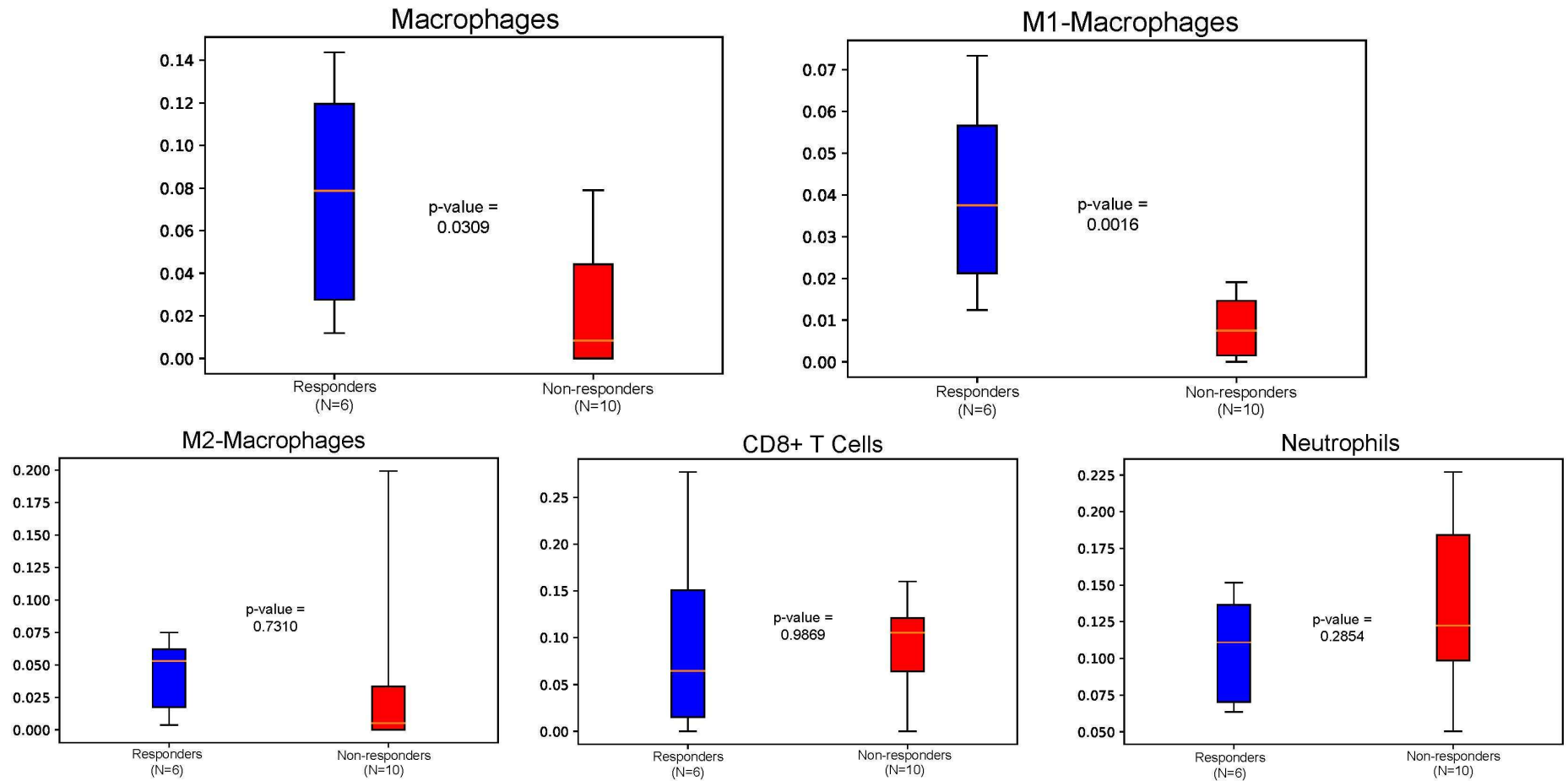
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<b>Gene</b>	<b>P-value (log-rank)</b>
ZNF607	0.00044
ZNF440	0.00211
ZNF845	0.00345
ZNF75A	0.00716
ZNF799	0.01066
ZNF300	0.0363
ZNF320	0.04243
ZNF280D	0.04713

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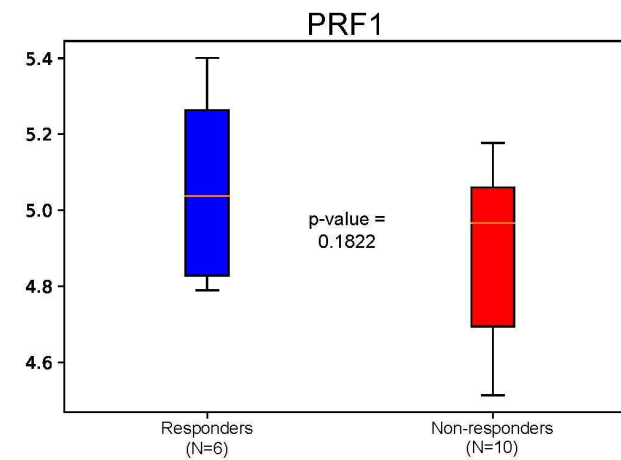
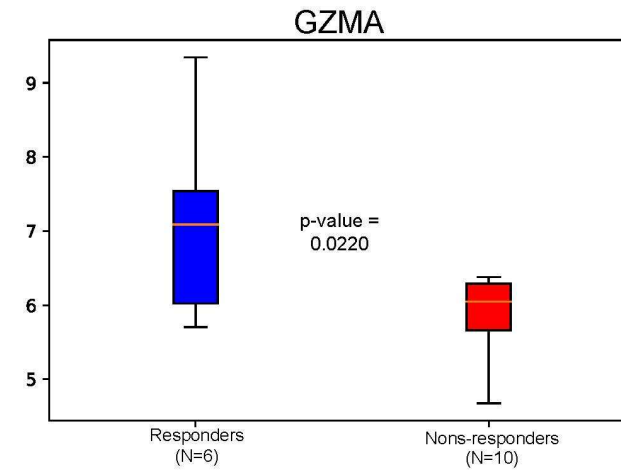
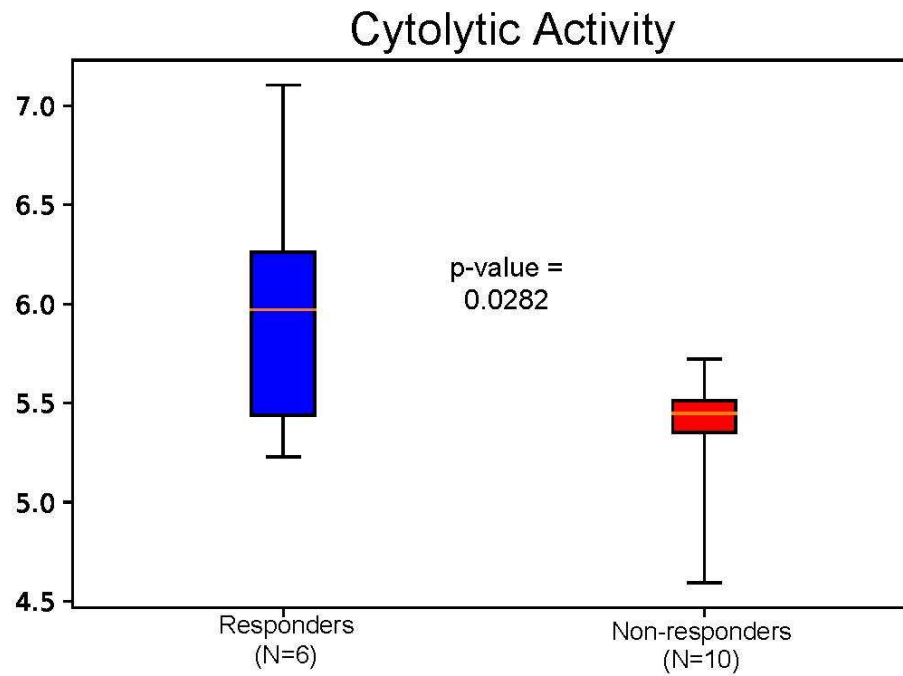
ZNFs genes associated to reduced survival (low [50% bottom] vs high [50% top] expression levels)

## Supplementary Figure 4



Tumor-infiltrating immune cells percentages according to response (xCell tool). Vertical lines represent 95% confidence interval, horizontal line inside the boxes represent mean.

## Supplementary Figure 5



xCell tool for cytolytic activity quantification according to granzyme A (GZMA) and perforin (PRF1) mRNA levels.