

## **Supplemental Material to:**

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**SOX2-specific adaptive immunity and response to immunotherapy in non-small cell lung cancer**

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***Supplementary Table 1. Clinical characteristics of patients (n = 24) analyzed for correlation with response to immunotherapy.***

***Supplementary Table 2. Composition/ sequences of peptide mixes. A. Peptide sequences for overlapping peptide library from SOX2. B. Peptide sequences for overlapping peptide library from NY-ESO-1.***

Supplementary Table 1.

Patient Characteristics:

<b>Characteristic</b>	<b>n/N (%)</b>
Median Age	66 years (range 48-83 years)
Sex	
Male	15/ 24 (62%)
Female	9/ 24 (38%)
Histology:	
Squamous	12 /24 (50%)
Non-squamous	12/24 (50%)
Advanced Disease (Stage III/IV)	24/24 (100%)
Prior Therapy	24/24 (100%)
SOX2 Expression	5/11 (45%)

n/N= Number positive / Total or numbers tested

Supplemental Table 2A: SOX2 Peptide library

Nr.	Sequence
1	H-S-A-R-M-Y-N-M-M-E-T-E-L-K
2	R-M-Y-N-M-M-E-T-E-L-K-P-P-G
3	N-M-M-E-T-E-L-K-P-P-G-P-Q-Q-T
4	T-E-L-K-P-P-G-P-Q-Q-T-S-G-G-G
5	P-P-G-P-Q-Q-T-S-G-G-G-G-G-N-S
6	P-Q-Q-T-S-G-G-G-G-G-N-S-T-A-A
7	S-G-G-G-G-G-N-S-T-A-A-A-A-G-G
8	G-G-N-S-T-A-A-A-A-G-G-N-Q-K
9	S-T-A-A-A-A-G-G-N-Q-K-N-S
10	A-A-A-A-G-G-N-Q-K-N-S-P-D-R-V
11	G-G-N-Q-K-N-S-P-D-R-V-K-R-P-M
12	K-N-S-P-D-R-V-K-R-P-M-N-A-F-M
13	D-R-V-K-R-P-M-N-A-F-M-V-W-S-R
14	R-P-M-N-A-F-M-V-W-S-R-G-Q-R-R
15	A-F-M-V-W-S-R-G-Q-R-R-K-M-A
16	V-W-S-R-G-Q-R-R-K-M-A-Q-E-N-P-K
17	G-Q-R-R-K-M-A-Q-E-N-P-K-M-H
18	R-K-M-A-Q-E-N-P-K-M-H-N-S-E-I
19	A-Q-E-N-P-K-M-H-N-S-E-I-S-K-R
20	P-K-M-H-N-S-E-I-S-K-R-L-G-A
21	H-N-S-E-I-S-K-R-L-G-A-E-W-K-L
22	I-S-K-R-L-G-A-E-W-K-L-L-S-E-T
23	L-G-A-E-W-K-L-L-S-E-T-E-K-R
24	E-W-K-L-L-S-E-T-E-K-R-P-F-I
25	L-L-S-E-T-E-K-R-P-F-I-D-E-A-K
26	T-E-K-R-P-F-I-D-E-A-K-R-L-R-A
27	P-F-I-D-E-A-K-R-L-R-A-L-H-M-K
28	E-A-K-R-L-R-A-L-H-M-K-E-H

29 K-R-L-R-A-L-H-M-K-E-H-P-D-Y-K  
30 A-L-H-M-K-E-H-P-D-Y-K-Y-R-P-R  
31 K-E-H-P-D-Y-K-Y-R-P-R-R-K-T-K  
32 D-Y-K-Y-R-P-R-R-K-T-K-T-L-M-K  
33 R-P-R-R-K-T-K-T-L-M-K-K-D-K-Y  
34 K-T-K-T-L-M-K-K-D-K-Y-T-L-P-G  
35 L-M-K-K-D-K-Y-T-L-P-G-G-L-L-A  
36 D-K-Y-T-L-P-G-G-L-L-A-P-G-G  
37 T-L-P-G-G-L-L-A-P-G-G-N-S-M-A  
38 G-L-L-A-P-G-G-N-S-M-A-S-G-V-G  
39 P-G-G-N-S-M-A-S-G-V-G-V-G-A-G  
40 S-M-A-S-G-V-G-V-G-A-G-L-G-A-G  
41 G-V-G-V-G-A-G-L-G-A-G-V-N-Q-R  
42 G-A-G-L-G-A-G-V-N-Q-R-M-D-S-Y  
43 G-A-G-V-N-Q-R-M-D-S-Y-A-H-M  
44 V-N-Q-R-M-D-S-Y-A-H-M-N-G-W-S  
45 M-D-S-Y-A-H-M-N-G-W-S-N-G-S-Y  
46 A-H-M-N-G-W-S-N-G-S-Y-S-M-M  
47 N-G-W-S-N-G-S-Y-S-M-M-Q-D-Q-L  
48 N-G-S-Y-S-M-M-Q-D-Q-L-G-Y  
49 S-Y-S-M-M-Q-D-Q-L-G-Y-P-Q-H  
50 M-M-Q-D-Q-L-G-Y-P-Q-H-P-G-L  
51 D-Q-L-G-Y-P-Q-H-P-G-L-N-A-H-G  
52 Y-P-Q-H-P-G-L-N-A-H-G-A-A-Q-M  
53 P-G-L-N-A-H-G-A-A-Q-M-Q-P-M-H  
54 A-H-G-A-A-Q-M-Q-P-M-H-R-Y-D-V  
55 A-Q-M-Q-P-M-H-R-Y-D-V-S-A-L  
56 M-Q-P-M-H-R-Y-D-V-S-A-L-Q-Y  
57 M-H-R-Y-D-V-S-A-L-Q-Y-N-S-M-T  
58 D-V-S-A-L-Q-Y-N-S-M-T-S-S-Q-T  
59 L-Q-Y-N-S-M-T-S-S-Q-T-Y-M-N-G

60 S-M-T-S-S-Q-T-Y-M-N-G-S-P-T-Y  
61 S-Q-T-Y-M-N-G-S-P-T-Y-S-M-S-Y  
62 M-N-G-S-P-T-Y-S-M-S-Y-S-Q-Q-G  
63 P-T-Y-S-M-S-Y-S-Q-Q-G-T-P-G-M  
64 M-S-Y-S-Q-Q-G-T-P-G-M-A-L-G-S  
65 S-Q-Q-G-T-P-G-M-A-L-G-S-M-G-S  
66 T-P-G-M-A-L-G-S-M-G-S-V-V-K-S  
67 A-L-G-S-M-G-S-V-V-K-S-E-A-S-S  
68 M-G-S-V-V-K-S-E-A-S-S-S-P-P-V  
69 V-K-S-E-A-S-S-S-P-P-V-V-T-S-S  
70 A-S-S-S-P-P-V-V-T-S-S-S-H-S-R  
71 P-P-V-V-T-S-S-S-H-S-R-A  
72 P-V-V-T-S-S-S-H-S-R-A-P-C-Q-A  
73 S-S-S-H-S-R-A-P-C-Q-A-G-D-L-R  
74 S-R-A-P-C-Q-A-G-D-L-R-D-M-I-S  
75 C-Q-A-G-D-L-R-D-M-I-S-M-Y-L  
76 G-D-L-R-D-M-I-S-M-Y-L-P-G-A  
77 R-D-M-I-S-M-Y-L-P-G-A-E-V  
78 M-I-S-M-Y-L-P-G-A-E-V-P-E-P-A  
79 Y-L-P-G-A-E-V-P-E-P-A-A-P-S-R  
80 A-E-V-P-E-P-A-A-P-S-R-L-H-M-S  
81 E-P-A-A-P-S-R-L-H-M-S-Q-H-Y  
82 A-P-S-R-L-H-M-S-Q-H-Y-Q-S-G  
83 R-L-H-M-S-Q-H-Y-Q-S-G-P-V-P-G  
84 S-Q-H-Y-Q-S-G-P-V-P-G-T-A-I  
85 Y-Q-S-G-P-V-P-G-T-A-I-N-G-T-L  
86 P-V-P-G-T-A-I-N-G-T-L-P-L-S-H-M

Pool 1: 1-22

Pool 2: 23-44

Pool 3: 45-66

Pool 4: 67-86

Supplemental Table 2B. NYESO-1 Peptide library

Nr.	Sequence
1	M-Q-A-E-G-R-G-T-G-G-S-T-G-D-A
2	G-R-G-T-G-G-S-T-G-D-A-D-G-P-G
3	G-G-S-T-G-D-A-D-G-P-G-G-P-G-I
4	G-D-A-D-G-P-G-G-P-G-I-P-D-G
5	D-G-P-G-G-P-G-I-P-D-G-P-G-G
6	G-G-P-G-I-P-D-G-P-G-G-N-A-G-G
7	I-P-D-G-P-G-G-N-A-G-G-P-G-E-A
8	P-G-G-N-A-G-G-P-G-E-A-G-A-T-G
9	A-G-G-P-G-E-A-G-A-T-G-G-R-G
10	P-G-E-A-G-A-T-G-G-R-G-P-R-G-A
11	G-A-T-G-G-R-G-P-R-G-A-G-A-A-R
12	G-R-G-P-R-G-A-G-A-A-R-A-S-G
13	P-R-G-A-G-A-A-R-A-S-G-P-G-G-G
14	G-A-A-R-A-S-G-P-G-G-G-A-P-R-G
15	A-S-G-P-G-G-G-A-P-R-G-P-H-G-G
16	G-G-G-A-P-R-G-P-H-G-G-A-A-S-G
17	P-R-G-P-H-G-G-A-A-S-G-L-N-G
18	P-H-G-G-A-A-S-G-L-N-G-C-C-R
19	G-A-A-S-G-L-N-G-C-C-R-C-G-A-R
20	G-L-N-G-C-C-R-C-G-A-R-G-P-E-S
21	C-C-R-C-G-A-R-G-P-E-S-R-L-L
22	C-G-A-R-G-P-E-S-R-L-L-E-F-Y-L
23	G-P-E-S-R-L-L-E-F-Y-L-A-M-P-F
24	R-L-L-E-F-Y-L-A-M-P-F-A-T-P-M
25	F-Y-L-A-M-P-F-A-T-P-M-E-A-E-L
26	M-P-F-A-T-P-M-E-A-E-L-A-R-R-S
27	T-P-M-E-A-E-L-A-R-R-S-L-A

28 M-E-A-E-L-A-R-R-S-L-A-Q-D-A

29 E-L-A-R-R-S-L-A-Q-D-A-P-P-L

30 R-R-S-L-A-Q-D-A-P-P-L-P-V-P-G

Pool 1: 1-10 Pool 2: 11-20 Pool 3: 21-30