|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **FSP** | **FSP length** | **Best**  **HLA-A\*02:01 predicted binder** | **Predicted IC50 (nM)** | **Peptide**  **ID** | **FREQ CRC** |  |
| FSP\_PLEKHA6\_1 | 155 | IMMSWMPPL | 2,36 | Ly23 | 26% |  |
| **FSP\_CKAP2\_1** | **13** | **SLMEQIPHL** | **3,45** | **Ly4\_Ly24** | **28%** |  |
| FSP\_VCP\_1 | 62 | RMWTWSSWL | 7,79 | Ly54 | 41% |  |
| FSP\_SLC35G2\_1 | 17 | SLEPWIPYL | 9,02 | Ly55 | 51% |  |
| FSP\_KMT2C\_1 | 25 | KLWFSLINI | 10,39 | Ly6 | 28% |  |
| FSP\_MSH3\_1 | 31 | FLLALWECSL | 13,94 | Ly40 | 62% |  |
| FSP\_TM9SF3\_1 | 30 | KLWEKHFKGL | 17,62 | Ly21 | 33% |  |
| FSP\_EIF2B3\_1 | 56 | VLWMPTSTV | 19,47 | Ly58 | 35% |  |
| FSP\_XYLT2\_1 | 77 | RLMAPVGSV | 20,88 | Ly19 | 32% |  |
| FSP\_TTK\_1 | 38 | VMSDTTYKI | 22,39 | Ly2 | 58% |  |

**Table S2:** **Top Nous-209-derived peptides predicted to bind to** **HLA-A\*02:01.** In table are indicated the best 10 peptides from Nous-209 FSPs, predicted to bind HLA-A\*02:01. For each peptide is reported the predicted IC50 (as estimated by IEDB\_recommended method of IEDB software) and the frequency of observation of FSPs in MSI CRC tumors.In bold is indicated the CKAP2 peptide for which an HLA multimer conjugated to phycoerythrin (PE) was synthesized to isolate FSP-specific CD8 T cells with beads coupled to anti-PE antibodies from the blood of healthy subjects.