**Additional Table 1. Completed and Published Trials with Tumor-infiltrating Lymphocytes in Patients with Melanoma**

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| **Group** | **Phase** | **Patients enrolled** | **Disease stage**  **melanoma** | **Intervention** | **TIL product and number of cells infused (range or mean ± SEM)** | **Preparative lymphodepleting regimen** | **IL-2 regimen** | **Response (OR) (%) according to RECIST of treated patients (n=)** |
| **Mullinax et al., 2018 [1]**  **Moffit Cancer Center, Tampa, US** | II | 13 | III/IV | Ipi (4 doses 3mg/kg) 2w prior to metastectomy, 1w post metastectomy, 2 and 5 w post lymphodepletion) + TIL + HD IL-2 | Young TIL  2.3×1010 – 1.0×1011 | Cy 60 mg/kg for 2 d + Flu 25 mg/m2 for 5 d | 720,000 IU/kg t.i.d. until tolerable toxicity , max 15 doses | 38.5 (n=13) |
| **Chandran et al., 2017 [2]**  **NIH, Bethesda, Maryland, US** | II | 21 | Metastatic ocular melanoma | Cohort 1: Lymphodepletion + TIL + HD IL-2  Cohort 2: Lymphodepletion + TIL | Cohort 1+2: young TIL 1x109 – 2x1011 | Cohort 1+ 2: Cy 60 mg/kg for 2 d + Flu 25 mg/m2 for 5 d | Cohort 1: 720,000 IU/kg t.i.d. until tolerable toxicity, max 15 doses  Cohort 2: No IL-2 | 35 (n=21) |
| **Andersen et al., 2016 [3]**  **CCIT, Herlev, Denmark** | I/II | 25 | IIIc/IV | Lymphodepletion + TIL + LD IL-2 | Young TIL  109-1010 | Cy 60 mg/kg for 2 d + Flu 25 mg/ m2 for 5 d | Decrescendo regimen (18 MIU/m2 for 6 hr, 18 MIU/ m2 for 12 hr, 18 MIU/ m2 for 24 hr followed by 4.5 MIU/ m2 for another 3 x 24 hr) | 42 (n=25) |
| **Khammari et al., 2014 [4]**  **Nantes University Hospital, Nantes, France** | III | 88 | III | Cohort 1: Adjuvant TIL + LD IL-2  Cohort 2: Adjuvant LD IL-2 | TIL injection at 6 + 10 w post-surgery  0.22 – 3.34x1010 | - | s.c. injection (6x106 IU/m2) 5 d per w for 2 w | RFS cohort 1: 66 (n=44)  RFS cohort 2: 70 (n=44) |
| **Besser et al., 2013 [5]**  **Sheba Medical Center, Israel** | II | 80 | IV | Lymphodepletion + TIL + HD IL-2 | Young TIL  52 ± 24x109 | Cy 60 mg/kg for 2 d + Flu 25 mg/ m2 for 5 d | 720,000 IU/kg t.i.d. until tolerable toxicity, max 15 doses | 40 (n=57) |
| **Dudley et al., 2013 [6]**  **NIH, Bethesda, Maryland, US** | II | 101 | IV | Cohort 1+2: Lymphodepletion + TIL + HD IL-2 | Cohort 1: Unselected young TIL 9.8 – 84.9x109  Cohort 2: CD8+ young TIL 4.5 – 147.0x109 | Cy 60 mg/kg for 2 d + Flu 25 mg/ m2 for 5 d | 720,000 IU/kg t.i.d. until tolerable toxicity, max 15 doses | Cohort 1: 35 (n=34)  Cohort 2: 20 (n=35)  Total: 29 (n=69) |
| **Radvanyi et al., 2012 [7]**  **MD Anderson Cancer Center, Houston, Texas, US** | II | 31 | IIIc/IV | Lymphodepletion + TIL + 2 cycles HD IL-2 | Young TIL  (8 – 150 × 109) | Cy 60 mg/kg for 2 d + Flu 25 mg/ m2 for 5 d | 1st cycle: 720,000 IU/kg t.i.d. until tolerable toxicity, max 15 doses  2nd cycle: 21d post TIL | 42 (n=31) |
| **Pilon-Thomas et al., 2012 [8]**  **Moffitt Cancer Center and Research Institute, Tampa, Florida, US** | Pilot | 19 | III/IV | Lymphodepletion + TIL + HD IL-2 | Selected TIL  (2.0 – 11.0x1011) | Cy 60 mg/kg for 2 d + Flu 25 mg/ m2 for 5 d | 720,000 IU/kg t.i.d. until tolerable toxicity, max 15 doses | 38 (n=13) |
| **Ullenhag et al., 2012 [9]**  **Uppsala University, Uppsala, Sweden** | II | 24 | IV | Lymphodepletion + TIL + LD IL-2 | Selected TIL  (0.5 – 30.0x109) | Cy 60 mg/kg for 2 d + Flu 25 mg/ m2 for 5 d | s.c. injection (2.4x106 units/m2) until PD or unacceptable toxicity | 21 (n=24) |
| **Rosenberg et al., 2011 [10]**  **NIH, Bethesda, Maryland, US** | II | 93 | IV | Lymphodepletion + TIL + HD IL-2 | Selected TIL  6.5 ± 0.7x1010 (CR n= 20)  6.1 ± 0.5x1010 (PR n=32)  5.5 ± 0.6 x1010(NR n=41) | Cohort 1: Cy 60 mg/kg for 2 d + Flu 25 mg/ m2 for 5 d  Cohort 2: Cy 60 mg/kg for 2 d + Flu 25 mg/ m2 for 5 d + TBI 2 Gy  Cohort 3: Cy 60 mg/kg for 2 d + Flu 25 mg/ m2 for 5 d + TBI 2 x 2 Gy/d for 3 d | 720,000 IU/kg t.i.d. until tolerable toxicity, max 15 doses | Cohort 1: 49 (n=43)  Cohort 2: 52 (n=25)  Cohort 3: 72 (n=25)  Total: 56 (n=93) |
| **Itzhaki et al., 2011 [11]**  **Sheba Medical Center, Israel** | II | 55 | IV | Lymphodepletion + TIL + HD IL-2 | Young TIL  4.5 ± 2.0x1010 | Cy 60 mg/kg for 2 d + Flu 25 mg/ m2 for 5 d | 720,000 IU/kg t.i.d. until tolerable toxicity, max 15 doses | 48 (n=31) |
| **Dudley et al., 2010 [12]**  **NIH, Bethesda, Maryland, US** | II | 122 | IV | Cohort 1 + 2: Lymphodepletion + TIL + HD IL-2 | CD8+ enriched young TIL  Cohort 1: 47.7 ± 3.3 x109  Cohort 2: 43.1 ±7.5 x109 | Cohort 1: Cy 60 mg/kg for 2 d + Flu 25 mg/ m2 for 5 d  Cohort 2: Cy 60 mg/kg for 2 d + Flu 25 mg/ m2 for 5 d + TBI 3 x 2Gy | 720,000 IU/kg t.i.d. until tolerable toxicity, max 15 doses | Cohort 1: 58 (n=33)  Cohort 2: 48 (n=23)  Total: 54 (n=56) |
| **Dudley et al., 2002 [13]**  **NIH, Bethesda, Maryland, US** | I | 15 | IV | Cohort 1+2: Lymphodepletion + TIL  Cohort 3: Lymphodepletion + TIL + IL-2  Cohort 4: Lymphodepletion + TIL + IL-2  11 patients were treated with a 2nd cycle | Selected TIL  (0.9 – 24.2x109) | Cohort 1: Cy 30 mg/kg for 2 d + Flu 25 mg/ m2 for 5 d  Cohort 2-4: Cy 60 mg/kg for 2 d + Flu 25 mg/ m2 for 5 d | Cohort 3: 72,000 IU/kg t.i.d. for 5d  Cohort 4: 720,000 IU/kg t.i.d. until tolerable toxicity, max 12 doses | Cohort 1: 0 (n=3)  Cohort 2: 0 (n=3)  Cohort 3: 0 (n=3)  Cohort 4: 0 (n=6)  Total: 0 (n=15)  5 (30%) patients showed MR/transient regression of tumor |
| **Schwartzentruber et al., 1994 [14]**  **NIH, Bethesda, Maryland, US** | I/II | 43  (2 patients received >1 treatment) | IV | TIL + IL-2 with or without prior lymphodepletion | Selected TIL  1.9 ± 0.1x1010 (OR n=9)  1.5 ± 0.1x1010 (NR n=34) | 16 patients received Cy 25mg/kg single infusion | 720,000 IU/kg t.i.d. until tolerable toxicity or 216,000 IU/kg + IFN-α 3x106 U/m2 t.i.d. until tolerable toxicity | 21 (n=43) |
| **Rosenberg et al., 1994 [15]**  **NIH, Bethesda, Maryland, US** | I/II | 86 | IV | TIL + IL-2 in 2 cycles with or without prior lymphodepletion | Selected TIL  >1011 | 57 patients received Cy 25 mg/kg single infusion | 720,000 IU/kg t.i.d., max 15 doses  Repeated after 21 days | 34 (n=86) |

**Abbreviations:** CCIT, Center for Cancer Immune Therapy; CR, complete response; Cy, cyclophosphamide; d, day; Flu, fludarabine; Gy, Gray; HD, high-dose; hr, hour; i.v., intravenous; IFN-α, interferon alpha; IL-2, interleukin-2; Ipi, ipilimumab; IU, international unit; kg, kilogram; LD, low-dose; max, maximum;mg, milligram; MIU, million international units; MR, mixed response; NIH, National Institutes of Health; NR, no response; OR, objective response; PD, progressive disease; PR, partial response; RECIST, response evaluation criteria in solid tumors; s.c., subcutaneous; SEM, standard error of mean; t.i.d., ter in die; TIL, tumor-infiltrating lymphocytes; US, United States; w, week.

**References Additional Table 1:**

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