

Supplementary Material

Altered circulating immune cell distribution in traumatic spinal cord injury patients in relation to clinical parameters

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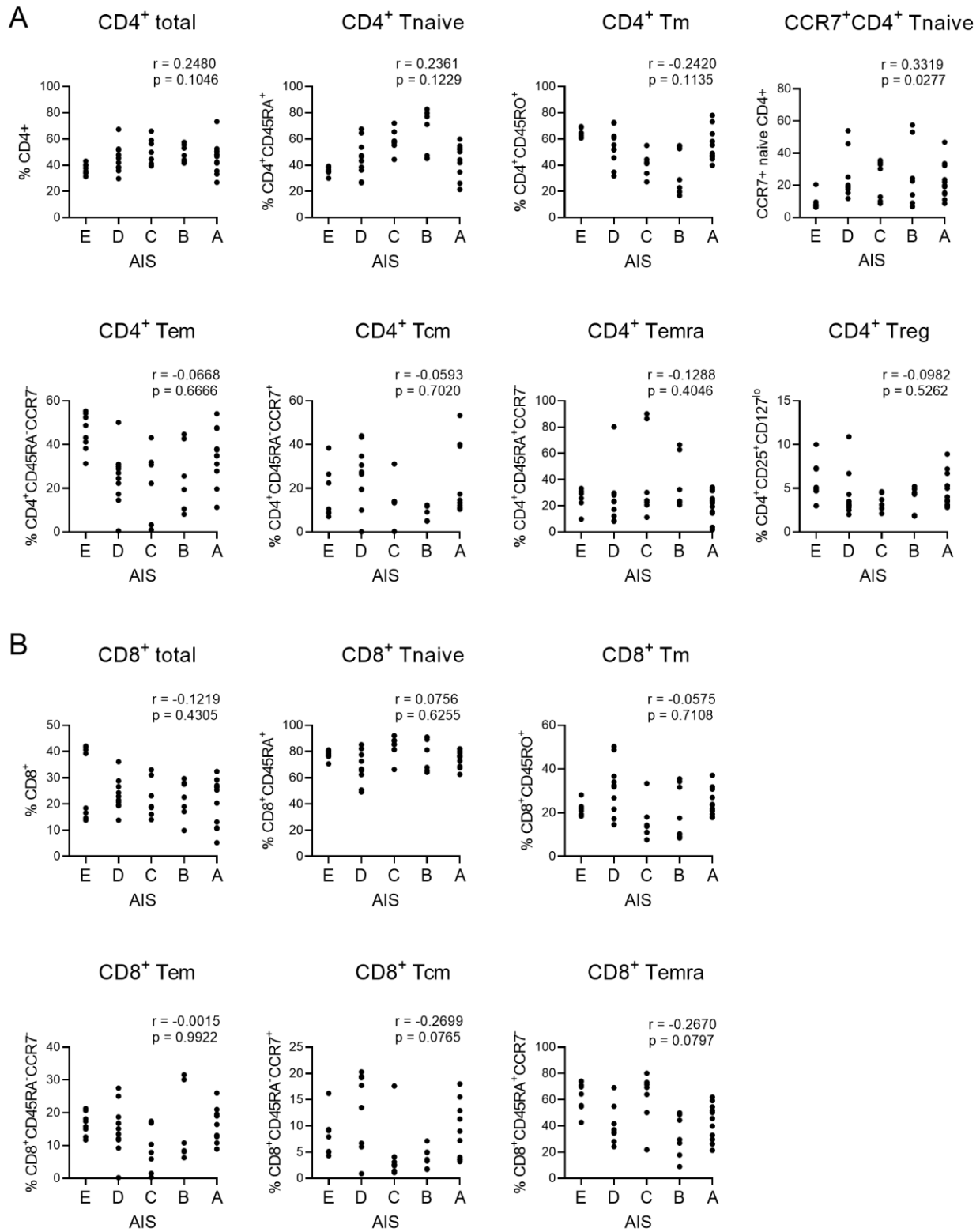
Supplementary Table 1. Detailed information on SCI patients

| Subject | Age | Gender | AIS score | | Location injury | Aetiology | Surgery | Included time points |
|---------|-----|--------|-----------|-------------------|-----------------|------------------------|--------------------------------------|----------------------|
| | | | t0 | Later time points | | | | |
| SCI-01 | 61 | M | C | C at 3m | Cervical | Fall | Laminectomy | t3 |
| SCI-02 | 56 | M | C | C at 3w | Thoracic | Motor vehicle accident | Fixation (2x) | t3, t4 |
| SCI-03 | 64 | F | B | n.a. | Cervical | Fall | ACDF | t0 |
| SCI-04 | 56 | M | D | E at 1d | Cervical | Fall | Laminectomy | t0, t1, t2, t3, t4 |
| SCI-05 | 64 | M | A | A at 7m | Thoracic | Fall | Fixation | t0, t1 |
| SCI-06 | 48 | M | B | n.a. | Cervical | Motor vehicle accident | Halo-gravity traction, spondylodesis | t0, t1, t2 |
| SCI-07 | 58 | F | A | A at 4m | Thoracic | Fall | Fixation | t2 |
| SCI-08 | 62 | M | A | C at 12w | Cervical | Fall | Luxation, fusion, laminectomy | t0, t1, t2, t3 |
| SCI-09 | 73 | M | A | n.a. | Thoracic | Fall | Spondylodesis | t0 |
| SCI-10 | 48 | M | D | D at 3m | Cervical | Motor vehicle accident | Spondylodesis, ACDF | t2 |
| SCI-11 | 58 | M | A | A at 9m | Lumbar | Fall | Spondylodesis | t5 |
| SCI-12 | 18 | M | B | B at 12m | Cervical | Sports accident | Fixation, spondylodesis | t2, t3, t4, t5 |
| SCI-13 | 67 | M | D | D at 6m | Cervical | Fall | / | t1, t2, t4 |
| SCI-14 | 61 | M | D | D at 6m | Cervical | Fall | Laminectomy, spondylodesis | t3, t4, t5 |
| SCI-15 | 68 | M | D | E at 5d | Cervical | Sports accident | Fusion, laminectomy | t0, t1, t2, t3, t4 |
| SCI-16 | 28 | M | A | A at 4m | Thoracic | Gunshot | Laminectomy | t0, t1, t2, t3 |
| SCI-17 | 54 | M | C | D at 15m | Cervical | Sports accident | ACIF decompression | t0, t1, t3 |
| SCI-18 | 60 | M | D | E at 24m | Cervical | Fall | Fusion | t3, t4 |

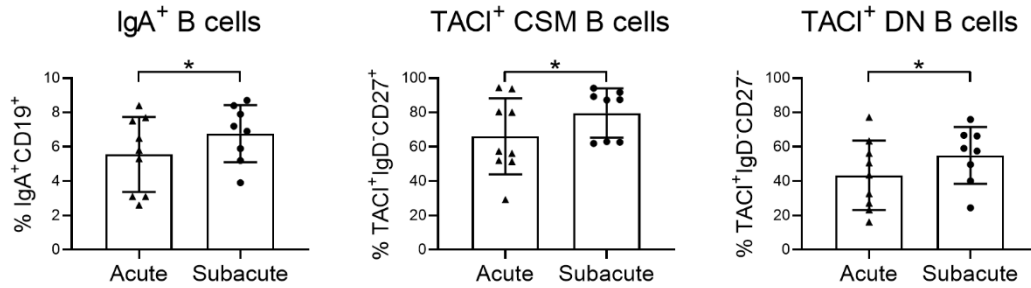
Abbreviations: ACDF, anterior cervical discectomy and fusion; ACIF, anterior cervical interbody fusion; F, female; M, male; n.a. not available; d, days; m, months; w, weeks

Supplementary Table 2. Monoclonal antibodies used for flow cytometry

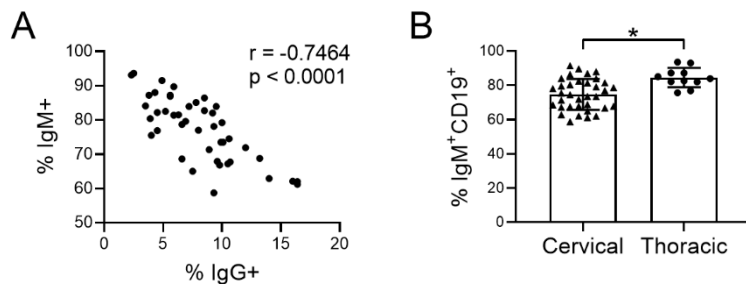
| Marker | Fluorochrome | Clone | Company |
|-----------------------------|---------------------|--------------|-----------------|
| CD19 | BV421 | HIB19 | BioLegend |
| CD24 | BV605 | ML5 | BioLegend |
| CD27 | APC | M-T271 | BioLegend |
| CD38 | BV711 | HIT2 | BioLegend |
| CD74 | PE | LN2 | BioLegend |
| CD267 | PE-Dazzle594 | 1A1 | BioLegend |
| CD268 | APC-Cy7 | 11C1 | BioLegend |
| CD269 | PerCP-Cy5.5 | 19F2 | BioLegend |
| IgD | PE-Cy7 | IA6-2 | BioLegend |
| IgM | BV650 | MHM-88 | BioLegend |
| IgG | AF700 | G18-145 | BD Biosciences |
| IgA | FITC | IS11-8E10 | Miltenyi Biotec |
| Fixable viability dye (FVD) | eFluor506 | / | eBioscience |



Supplementary Figure 1. Correlations of T cell subsets and disease severity. Correlation of the percentages of CD4⁺ (A) and CD8⁺ (B) total, Tnaive, Tm, Tem, Tcm, Temra and Treg with AIS score at sampling timepoint. r denotes the Spearman correlation coefficient (rho).



Supplementary Figure 2. Frequency of specific B cell subsets in the peripheral blood of acute and subacute SCI patients. Percentages of IgA⁺ total B cells, TACI⁺ CSM B cells and TACI⁺ DN B cells are shown within the B cell population of acute SCI patients (n = 9) and subacute SCI patients (n = 8). Mean (bars) ± SD is depicted. * p < 0.05



Supplementary Figure 3. IgM⁺ B cells in correlation with IgG⁺ B cells and in cervical and thoracic SCI patients. (A) Correlation of IgM⁺ B cell percentages and IgG⁺ B cell percentages. r denotes the Spearman correlation coefficient (rho). (B) Percentages of IgM⁺ total B cells are shown within the B cell population of SCI patients with a cervical (n = 12) or thoracic (n = 6) injury, including 35 cervical and 11 thoracic samples collected at different (s)aSCI and cSCI time points. Mean (bars) ± SD is depicted. * p < 0.05