

Online Resource 1. General characteristics of multiple sclerosis patients and white matter brain tissues obtained for *ex vivo* and *in vitro* T-cell analyses.

| Patient ID | Clinical course ^a | Gender ^b | Age (yrs) | Disease duration | | Cause of death | CSF (pH) | PMI (hrs) ^e | IHC of viable tissues ^f | | HLA class I ^g | | | HLA class II ^g | |
|------------|------------------------------|---------------------|-----------|--------------------|-------------------|---|----------|------------------------|------------------------------------|-----------|--------------------------|-----------------|-----------------|---------------------------|-----------------|
| | | | | (yrs) ^c | EDSS ^d | | | | NAWM | Lesion(s) | A | B | C | DRB1 | DQB1 |
| 1 | SPMS | F | 64 | 31 | ≥8 | Urosepsis | 6.20 | 10:10 | NAWM | mAIL | <u>*02, *03</u> | <u>*07, *51</u> | <u>*02, *07</u> | <u>*11, *15</u> | <u>*03, *06</u> |
| 2 | PPMS | F | 88 | 25 | 6-7 | Exhaustion by chronic colitis ulcerosis | 6.85 | 7:55 | NAWM | mAIL | <u>*01, *02</u> | <u>*07, *38</u> | <u>*07, *12</u> | <u>*15, *15</u> | <u>*06, *06</u> |
| 3 | SPMS | M | 45 | 10 | ≥8 | Pulmonary embolisms and cardiac arrest | 6.22 | 7:45 | n.a. | mAIL | <u>*01, *01</u> | <u>*07, *08</u> | <u>*07, *07</u> | <u>*03, *15</u> | <u>*02, *06</u> |
| 4 | SPMS | M | 76 | 44 | ≥8 | Cerebrovascular incident | 6.42 | 7:35 | NAWM | DWMA | <u>*01, *26</u> | <u>*27, *37</u> | <u>*01, *06</u> | <u>*10, *16</u> | <u>*05, *05</u> |
| 5 | RRMS | F | 59 | 24 | 7-8 | Euthanasia | 7.08 | 4:45 | DWMA | AL | <u>*11, *24</u> | <u>*35, *52</u> | <u>*03, *12</u> | <u>*01, *13</u> | <u>*05, *06</u> |
| 6 | SPMS | F | 68 | 37 | ≥8 | Euthanasia | 6.40 | 10:20 | mAIL | mAIL | <u>*02, *68</u> | <u>*14, *57</u> | <u>*06, *08</u> | <u>*13, *15</u> | <u>*03, *06</u> |
| 7 | PPMS | M | 83 | 21 | n.d. | Pneumonia and lung cancer | 6.40 | 7:50 | DWMA | mAIL | <u>*02, *29</u> | <u>*40, *45</u> | <u>*03, *06</u> | <u>*12, *13</u> | <u>*03, *06</u> |
| 8 | SPMS | F | 74 | 25 | ≥8 | Cardio-respiratory insufficiency | 6:43 | 10:15 | NAWM | IL | <u>*03, *03</u> | <u>*07, *44</u> | <u>*07, *16</u> | <u>*07, *15</u> | <u>*02, *06</u> |
| 9 | PPMS | M | 54 | 12 | 7-8 | Euthanasia | 6.39 | 8:15 | n.a. | 2xmAIL | <u>*11, *29</u> | <u>*35, *44</u> | <u>*04, *16</u> | <u>*01, *15</u> | <u>*02, *06</u> |
| 10 | PPMS | F | 66 | 23 | ≥8 | Euthanasia | 6.45 | 9:35 | NAWM | mAIL | n.d. | n.d. | n.d. | n.d. | n.d. |
| 11 | SPMS | F | 56 | 32 | ≥8 | Pneumonia | 6.16 | 8:25 | n.a. | AL | n.d. | n.d. | n.d. | n.d. | n.d. |
| 12 | RRMS | M | 56 | 13 | 7-8 | Suicide | 7.10 | 10:10 | DWMA | DWMA | n.d. | n.d. | n.d. | n.d. | n.d. |
| 13 | SPMS | M | 73 | 43 | ≥8 | Urosepsis | 6.40 | 8:45 | NAWM | IL | n.d. | n.d. | n.d. | n.d. | n.d. |
| 14 | PPMS | F | 54 | 31 | ≥8 | Heart Failure | 6.27 | 9:20 | DWMA | IL | n.d. | n.d. | n.d. | n.d. | n.d. |
| 15 | SPMS | M | 54 | 25 | ≥8 | Euthanasia | 6.26 | 10:50 | DWMA | mAIL | n.d. | n.d. | n.d. | n.d. | n.d. |
| 16 | SPMS | F | 95 | 54 | ≥8 | Infection, cachexia and dehydration | 6.40 | 10:00 | NAWM | AL | n.d. | n.d. | n.d. | n.d. | n.d. |
| 17 | n.d. | M | 71 | 15 | 6.5 | Metastasized pulmonary carcinoma | 6.38 | 8:45 | n.a. | n.d. | <u>*01, *02</u> | <u>*07, *07</u> | <u>*07, *07</u> | n.d. | n.d. |
| 18 | SPMS | M | 59 | 21 | 7 | Euthanasia | 6.50 | 10:45 | DWMA | mAIL | n.d. | n.d. | n.d. | n.d. | n.d. |
| 19 | SPMS | F | 53 | 16 | 7-8 | Euthanasia | 6.81 | 7:15 | DWMA | DWMA | <u>*02, *03</u> | <u>*07, *35</u> | <u>*04, *07</u> | <u>*01, *15</u> | <u>*05, *06</u> |
| 20 | RRMS | F | 87 | 18 | ≥8 | Dehydration and renal insufficiency | 5.92 | 9:30 | NAWM | DWMA | <u>*02, *02</u> | <u>*15, *44</u> | <u>*03, *07</u> | <u>*15, *15</u> | <u>*06, *06</u> |
| 21 | SPMS | F | 48 | 22 | ≥8 | Respiratory failure | 6.10 | 11:50 | NAWM | mAIL | <u>*01, *11</u> | <u>*15, *52</u> | <u>*03, *12</u> | <u>*04, *11</u> | <u>*03, *03</u> |
| 22 | PPMS | M | 66 | 25 | ≥8 | Euthanasia | 7.28 | 10:55 | mAIL | AL | <u>*02, *03</u> | <u>*07, *15</u> | <u>*03, *07</u> | <u>*15, *15</u> | <u>*06, *06</u> |
| 23 | PPMS | M | 57 | 25 | 6.5 | Sepsis | 6.80 | 10:15 | NAWM | mAIL | n.d. | n.d. | n.d. | n.d. | n.d. |
| 24 | SPMS | F | 56 | 21 | 6.5 | Suicide | 6.42 | 14:00 | n.d. | n.d. | <u>*24, *30</u> | <u>*18, *40</u> | <u>*03, *05</u> | n.d. | n.d. |
| 25 | PPMS | F | 51 | 15 | ≥8 | Euthanasia | 6.60 | 9:45 | n.d. | n.d. | n.d. | n.d. | n.d. | n.d. | n.d. |
| 26 | n.d. | F | 35 | 10 | ≥8 | Euthanasia | 6.37 | 10:20 | n.d. | n.d. | n.d. | n.d. | n.d. | n.d. | n.d. |
| 27 | SPMS | F | 74 | 50 | >7.5 | Euthanasia | 6.40 | 7:50 | NAWM | mAIL | n.d. | n.d. | n.d. | n.d. | n.d. |

^aRR, relapsing remitting MS; PP, primary progressive MS; SP, secondary progressive MS; Und., undefined disease course. ^bGender: Male or Female, ^cDuration disease since clinical diagnosis of MS. ^dExpanded disability status scale. ^ePost-mortem interval: time between death and the end of autopsy. ^fMacroscopically characterized normal appearing white matter (NAWM) and MS lesion tissues obtained were subjected to immunohistochemistry (IHC) to classify WM as: NAWM, diffuse white matter abnormalities (DWMA), active lesion (AL), mixed active/inactive lesion (mAIL) and inactive lesion (IL) (see reference 29). n.a., not available; n.d., not determined. ^gHLA genotypes overlapping with BLCL-GR (HLA-A*01,*03, -B*07,*27, -C*02,*07, -DRB1*13,*15, -DQB1*06,*06) are underlined.