



Figure e-2: Isolation of single cells from frozen CNS specimen and peripheral blood.

A: Laser-microdissection of single $CD8^+V\beta1^+$ double-positive T cells from frozen sections of the brain lesion from patient A. The circle marks the area in the tissue section that is isolated.

Upper left panel: A cell is stained for CD8 (red).

Upper right panel: The same cell is stained for Vβ1 (green).

Lower left panel: The biopsy section after isolation of the $CD8^+V\beta1^+$ double-positive T cell.

Lower right panel: The cell in the lid of a PCR tube. This cell is subject to TCR analysis by multiplex PCR.

B: Analysis and isolation of expanded T cell populations from peripheral blood of patient A taken 2003.

Upper left panel: CDR3 spectratyping reveals an expanded Vβ1-Jβ2.3 population. Primer pairs specific for Vβ1 and Jβ2.3 were used to amplify TCR β-chains from a blood sample from 2003 of patient A. The abscissa shows the length distribution of the PCR products, the ordinate the relative intensity. A strong single peak indicates an expanded T cell population, while a polyclonal population would yield more than 10 peaks with a Gaussian intensity distribution.

Upper right panel: The nucleotide sequence is revealed by direct sequencing of the PCR product.

Lower panel: $V\beta1^+CD8^+$ positive cells are isolated by flow cytometry.