Supplementary methods

<u>Auer & Hegen formulae</u>

$$Q_{lim}(IgX) = a \times Qalb^b \quad (1)$$

Ig isotypes	a	b
IgG	0.882	1.035
IgA	0.819	1.076
IgM	1.845	1.340

$$IgX_{int} = \left(Q_{IgX} - Q_{lim\ IgX}\right) \times IgX_{ser} \quad (2)$$

$$Ig_{IF} = \frac{IgX_{int}}{IgX_{CSF}} \times 100 \quad (3)$$

Formula (1):   The Q_{alb}-based cut-off Ig quotient ($Q_{lim\ IgX}$) is calculated by inserting the empirically determined values for *a* and *b*.

Formula (2):   The amount of intrathecally synthesised Ig (IgX_{int}) is calculated.

Formula (3):   The percentage of an intrathecally synthesised Ig fraction (Ig_{IF}) in the CSF is calculated.

<u>Reiber formulae</u>

$$Q_{lim}(IgX) = \frac{a}{b} \times \sqrt{Q_{alb}^2 + b^2} - c \quad (1)$$

Ig isotypes	a/b	$b^2 \times 10^6$	$c \times 10^3$
IgG	0.93	6	1.7
IgA	0.77	23	3.1
IgM	0.67	120	7.1

$$IgX_{int} = \left(Q_{IgX} - Q_{lim\ IgX}\right) \times IgX_{ser} \quad (2)$$

$$Ig_{IF} = \frac{IgX_{int}}{IgX_{CSF}} \times 100 \quad (3)$$

Formula (1):   The Q_{alb}-based cut-off Ig quotient ($Q_{lim\ IgX}$) is calculated by inserting the empirically determined values for *a*, *b* and *c*. For convenience, the values for a/b, $b^2 \times 10^6$ and $c \times 10^3$ are provided.

Formula (2):   The amount of intrathecally synthesised Ig (IgX_{int}) is calculated.

Formula (3):   The percentage of an intrathecally synthesised Ig fraction (Ig_{IF}) in the CSF is calculated.

Abbreviations: Ig, immunoglobulin; IgX_{CSF}, Ig concentration in CSF; IgX_{ser}, Ig concentration in serum; Q_{alb}, CSF/serum albumin quotient; Q_{IgX}, CSF/serum Ig quotient