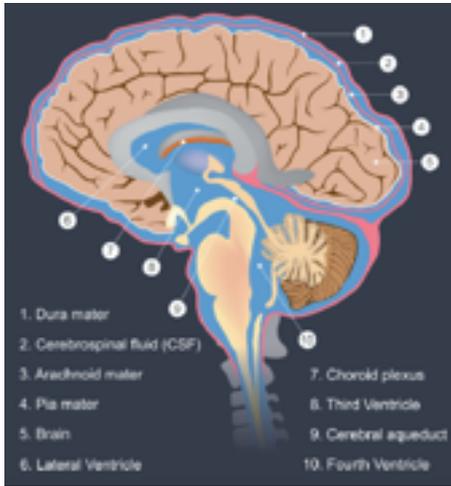


Intelligent CSF diagnostics



Cerebrospinal fluid diagnostics (CSF) analysis is primarily used to diagnose diseases affecting the **central nervous system (CNS)** and is therefore an important part of neurological and psychiatric diagnostics.

The cerebrospinal fluid (CSF), usually obtained by lumbar puncture, is a crystal-clear, colorless liquid. There is a constant exchange between CSF and serum. The concentration of blood-dependent and brain-derived proteins in the CSF is modulated by the CSF flow rate and is dependent on the size of the molecules.

BIOMED offers you **certified quality controls** for routine diagnostics:

Liquid, **ready-to-use** solutions of human origin

Normal or **pathological** measuring range

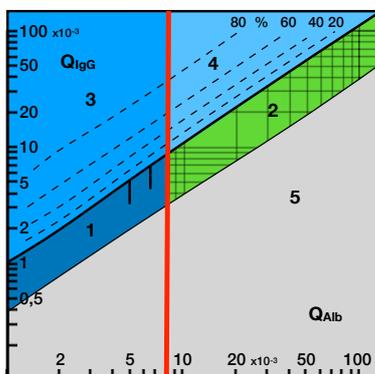
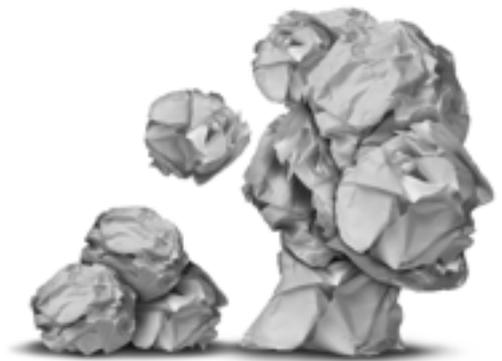
For checking the accuracy and precision of your determinations

Duotrol® CSF

Serum-based **CSF control**

Albumin, glucose, IgA, IgG, IgM,

lactate, total protein, chloride, sodium, potassium, LDH



Duotrol® CSQ Advanced

Serum: Albumin, glucose, IgA, IgG, IgM (according to RiliBÄK 2019)

Liquor: Albumin, glucose, IgA, IgG, IgM,

lactate, total protein, chloride, sodium, ferritin

CSF/serum quotient (LSQ) for albumin, IgG, IgA, IgM

Evaluation of the LSQ according to the **Reiber Scheme**

Find out more about CSF diagnostics:

<https://www.biomed.de/en/products/quality-controls/csf-oligoclonal-bands-controls/>

Intelligent CSF diagnostics

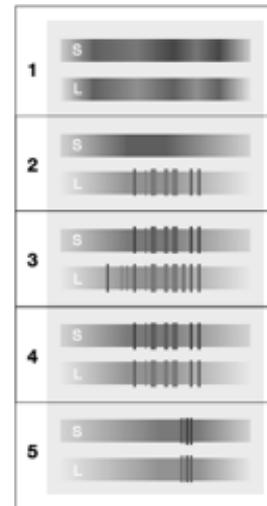
5 possible patterns of results according to DGN and DGLN

Duotrol® Oligo

The serum-based, lyophilized special control Duotrol® Oligo serves as a qualitative control in the comparative determination of **IgG-specific oligoclonal bands** in serum and **CSF using isoelectric focusing**.

OKB or different fractions of gamma-range oligoclonal IgG occur in the CSF in subacute and chronic inflammatory diseases of the central nervous system (CNS).

The control is available as positive and negative control.



1. normal result
2. Intrathecal IgG synthesis
3. Intrathecal IgG synthesis in systemic immune response
4. Passive filtration of IgG from the blood into the CSF
5. No intrathecal IgG synthesis

S: Serum, L: Liquor



In CSF analysis, integrated overall results should include presentation of cytology, protein analysis, and immunology results for therapeutic decision making.

Up to 4 cells/ μ L in the lumbar CSF are considered normal. Nevertheless, cell differentiation should not be omitted. The well-established **Pappenheim stain** is considered the basic program of **CSF cytology**.

BIOMED CSF Cytology — Standardized staining solutions for your **cytological preparations**

The Hemafix® staining solutions for overview staining according to Pappenheim —

Differential blood test as a result of microscopic examination

- Leukocytes
- Lymphocytes
- Monocytes
- Granulocytes: - neutrophils
- eosinophils
- basophil

