Complement System Immunoassays

Comprehensive Assessment of all Three Pathways

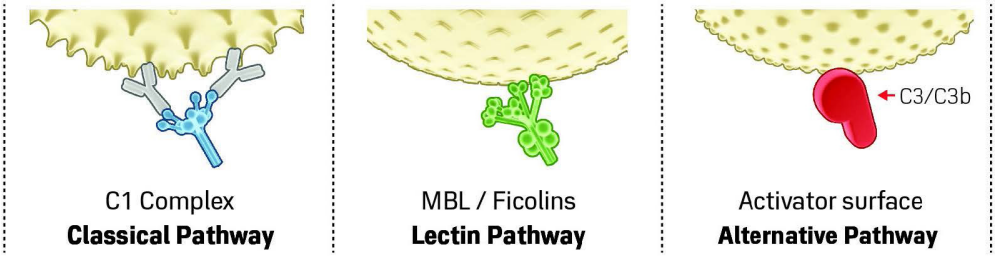
The Complement System

The complement system is composed of at least 30 circulating proteins and is essential in the innate immune system which protects from chronic, autoimmune, and infectious diseases.[1-4] There are three distinct complement activation pathways: classical, lectin, and alternative. Each pathway ultimately leads to the generation of the same set of effector molecules and assists in eliminating infections and pathogens. While the effector molecules are the same, the initiation of each pathway is dependent on different molecules.

Applications in Drug Development and Clinical Research

Complement pathway activation has become an important tool for drug development and clinical research programs. Measuring complement activation enables researchers to:

- Look for deficiencies that result in infections
- Investigate the potency of new complement-targeted therapies[5]
- Monitor complement function and activity of drug candidates[6]
- Follow disease activity by noting complement activation and optimize treatment regimens
- Discover off-target complement reactions caused by drug candidates[8]



Complement System Assays

The complement ELISA portfolio offered by ALPCO allows for the complete assessment of all three pathways, either individually or simultaneously in serum. All of the assays contain microtiter strips coated with specific activators. In the Total Complement Functional Screen ELISA, the sample is co-incubated with a specific blocker to ensure that only the desired pathway is activated, therefore securing accurate results.

In addition, the Complement C4d ELISA measures activity where the Classical and Lectin Pathways join. And the Terminal Complement Complex (TCC) ELISA assesses overall activation of the complement system regardless of pathway.

Assay Offering

ELISA	Catalog Number
Classical Pathway	13-COMPL-CP310
Alternative Pathway	13-COMPL-AP330
Lectin/MBL Pathway	13-COMPL-MP320
Total Complement Functional Screen	13-COMPL-300
NEW! Complement C4d	13-COMPL-C4d
NEW! Terminal Complement Complex (TCC)	13-COMPL-TCC

For Research Use Only, Not for Diagnostic Procedures.

Key Features:

- Reliable, easy-to-interpret results
- Low inter-assay variability and excellent reproducibility
- Ready-to-use reagents and short, 2-hour incubation help streamline workflow
- Excellent specificity means clear results without false positives
- Only product to offer exploration of all three complement system pathways individually

Simple to Use and Interpret

Classical Pathway	Lectin Pathway (MBL)	Lectin Pathway (Ficolin-3)	Alternative Pathway	Possible Deficiency
Positive	Positive	Positive	Positive	None
Negative	Positive	Positive	Positive	C1q, C1r, Cls
Positive	Positive	Positive	Negative	Properdin, Factor B,D
Positive	Negative	Positive	Positive	MBL
Positive	Positive	Negative	Positive	Ficolin 3
Positive	Negative	Negative	Positive	MASP2
Negative	Negative	Negative	Negative	C3, C5, C6, C7, C8, C9
Negative	Negative	Negative	Positive	C4, C2 or combination

References:

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