Complement C4d SPECIFIC ACTIVITY MARKER FOR THE CLASSICAL & LECTIN PATHWAY

The Svar Complement C4d is a highly specific complement activity marker for the classical and lectin pathway that play a prominent role in transplantation and autoimmunity.

Engineered to target the unique C4d cleavage epitope, the assay only measures C4d genrated from both genetic variants without risk of crossreactivity with native C4, C4b, C4c or other related complement proteins.

With ready to use reagents and short incubation times Svar complement C4d assay is userfriendly with limited hands-ontime.

The complement system is known as a key part of the host immune surveillance system and maintenance of tissue homeostasis. Lately, there has been an increased recognition of diseases and inflammatory processes closely associated and driven by complement activation. Pathologically increased complement activation can be evaluated by quantification of complement components.

"...the emergence of new therapeutics that block complement activation makes C4d a marker with potential to identify patients who may possibly benefit from these drugs." (Cohen 2012)



C4d is the final product during complement activation initiated either from the classical or lectin pathway



RESEARCH AND DRUG DEVELOPMENT

C4d has been used for a long time as a histological biomarker for complement activity and is recognized for its stability and strong association with antibody mediated rejection (AMR) of grafts. C4d in plasma is now increasingly identified as a biomarker for complement activation and as a tool to predict and monitoring flares in for example SLE, Systemic sclerosis and ANCA-associated vasculitis. Several studies are ongoing to evaluate and study plasma C4d as biomarker in a wide area of situations.

C4d has also been evaluated as a useful biomarker within the cancer area. Studies indicate that C4d may be of prognostic value in different types of lung cancer. In malignant pleural mesothelioma, C4d levels have been shown to correlate with tumor load and chemotherapeutic response.

As an early activity marker in the classical and lectin pathways C4d could be used for evaluation of complements targeting the upstream steps of the activation cascade.

HIGHLY SPECIFIC – RELIABLE MESUREMENT

Svar Complement C4d target a unique neoepitope only present in the C4d fragment, which enables specific assessment of complement activation and does not measure native C4 or other C4-fragments

ACCELERATE DRUG DEVELOPMENT

C4d complement testing can help monitor disease activity and allow for testing of complement drugs. Activity testing of C4d can also verify the effect of certain treatments which makes C4d a valuable tool in drug development

EASY TO USE - QUICK ASSESSMENT

The Svar Complement C4d include ready to use reagents and short incubation times which means reduced hands-on-time for the user

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Immuno-Biological Laboratories, Inc. Toll-Free: 888-523-1246 8201 Central Ave NE, Suite P Minneapolis, MN 55432

Email: info@IBL-America.com Web: www.IBL-America.com

Svar Complement Portfolio

SIMPLE AND OBJECTIVE METHODS TO AID COMPLEMENT RESEARCH & DEVELOPMENT

The Svar Complement portfolio consists of functional assessment assays for all three pathways and activity markers in simple and accurate ELISA format. All Svar complement assays are available through our Laboratory Services as bioanalytical studies in research and drug development.

REDUCED HANDS-ON-TIME •

The Svar Complement assays are flexible and easy to use enzyme immunoassays with ready to use reagents and short incubation times leading to reduced hands-on-time for the user.

EMERGING AREAS OF USE .

C4d is since long time widely used as a histology marker of complement activity in several diseases, especially conditions with renal involvement, investigation of solid organ grafts and a tool to identify antibody-mediated rejection. C4d in plasma is now increasingly identified as a biomarker for complement activation and as a tool to predict and monitoring flares in several autoimmune conditions.

THE NEOEPITOPE ASSAY PRINCIPLE

Like other activation products of the complement activation cascade, C4d is specifically measured by the neoepitope assay principle. Neoepitopes are epitopes hidden in the native component and being exposed on the surface of fragments formed during activation. The Svar Complement C4d assay is based on the detection of the short linear C4d neoepitope exposed at the cleavage site of C4 after activation. This epitope is insensitive to repeated freeze - thaw cycles of samples.

"C4d levels correlate with disease activity and rise before renal flares in lupus nephritis. C4d levels are more valuable than either C3 or C4 in predicting recurrence of renal flares, aiding clinicians in adjusting treatment in time" (Martin 2017)

COMPLEMENT C4d	
Product code	COMPL C4d RUO
Format & Tests	ELISA, Break apart 96 wells
Range & Units	0-400 ng/ml, 6 calibrators, Ready to use
Incubation Time & Temp	60-30-30 min, Room temperature
Detection system	450 nm
Availability	FOR RESEARCH USE ONLY. Not for use in diagnostic procedures



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