Complement Component Deficiencies

C2 Deficiency [AR: OMIM #217000]
Properdin [CFP] Deficiency [XLR: OMIM #312060]
Factor D [CFD] Deficiency [AR: OMIM #613912]
C6 Deficiency [AR: OMIM #612446]
C7 Deficiency [AR: OMIM #610102]
C8B Deficiency [AR: OMIM #613789]

Background

The complement system is the principal effector of humoral immune reactions and contributes to inflammation and to protection against infection. Activation of the system with recruitment of C3 and the cytolytic terminal components C5–C9 is mediated through three activation pathways: the classical pathway (C1, C4, C2), the lectin or mannose-binding lectin pathway (MBL, MASP-1, MASP-2, C2, C4), and the alternative pathway (C3, factors B and D, and properdin). Complement C2 deficiency is the most frequent complement disorder among Western Europeans and is associated with rheumatological disorders such as systemic lupus erythematosus. Deficiency of Properdin [CFP], Factor D [CFD], and the terminal complex components C6, C7 and C8B, is associated with an increased risk Neisserial infections.

Recommended Clinical Referral Criteria

The minimum testing criteria for C2 is low or absent C2 levels in serum. The minimum testing criteria for CFP or CFD includes normal classical complement pathway mediated lysis. (CP50) and low or absent alternative complement pathway mediated lysis (AP50).The minimum testing criteria for C6; C7 and C8B is absent classical and alternative complement pathway activation and/or confirmed loss of specific factors by immunological methods.

Molecular Analysis

Mutation screen:
Bi-directional sequence analysis of the coding region of the *CFP; CFD; C7 and C8B* genes.
Bi-directional sequence analysis of selected exons of the *C6* gene.
PCR and gel analysis of C2 common deletion C2:c.841_849+19del28 (rs9332736)]
Family follow-up:
Testing for known familial mutations in all genes.

Test	TAT (calendar days)
Mutation screening per gene	42
C2 common deletion testing	42
Testing for known familial mutations	42

Contact Details
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Accredited to ISO 15189:2012
(8988)

Sample Requirements
Blood – 5ml in EDTA (1ml neonates/infants);
Please contact lab prior to sending a prenatal sample.
Please label samples with three identifiers and date of collection.
All samples must be accompanied by request form
Consent for testing & DNA storage is assumed when request for test received

Links

Orphanet
http://www.orpha.net/
OMIM
http://www.omim.org/
Genetic Test Registry
http://www.ncbi.nlm.nih.gov/gtr/

Support

http://www.immunodeficiencyuk.org/