

Paroxysmal Nonkinesigenic Dyskinesia (DYT8) Testing via *PNKD* Gene Sequencing
Sequential (Standard) Test – Test #162; Tier 1 Only – Test #163; Tier 2 Only – Test #164

Brief Description of Clinical Features: Paroxysmal Nonkinesigenic Dyskinesia (PNKD, DYT8) (OMIM 118800) is a rare dystonia that involves episodes of involuntary movement such as ballistic movements or dystonic posturing often in the face and extremities triggered by non-movement related stressors such as hunger, alcohol, caffeine, exhaustion or emotional stress. Episodes are also known to occur spontaneously and while usually of short duration can last for hours. For more information, see Spacey and Adams (Gene Reviews, www.genetests.org, 2005).

Genetics: The *PNKD* gene is the primary gene associated with PNKD (Rainier et al. Arch Neurol 61:1025-1029, 2004; Lee et al. Hum Mol Genet 13:3161-3170, 2004; Chen et al. Arch Neurol 62:597-600, 2005). The *PNKD* gene is also known as the myofibrillogenesis regulator 1 (MR-1) gene and as DYT8 (dystonia locus 8). Familial PNKD is autosomal dominant with incomplete penetrance. About 90% of people who carry a mutation in the *PNKD* gene will be affected. Two causative missense mutations (c.20C>T leading to Ala7Val and c.26C>T leading to Ala9Val) have been identified to date. Both are found in exon 1. There is some evidence for a possible second PNKD locus on chromosome 2q31. (Spacey et al. Neurology 66:1588-1590, 2006).

Description of This Particular Test: This test involves two Tiers. In Tier 1, PCR amplification from genomic DNA and bidirectional sequencing of the protein coding region for exon 1 is performed to confirm or deny the presence of the two known mutations. If Tier 1 is negative, testing continues with Tier 2 which involves PCR amplification and bidirectional sequencing of all protein coding regions for the remaining exons of *PNKD*. Tier 1 testing may be ordered alone.

Reference Sequences: Genomic NC_000002.10 mRNA NM_015488.4 protein NP_056303.3

Indications for Test: Candidates for this test are patients with symptoms consistent with PNKD, and the family members of patients with known mutations. In addition to this test, PreventionGenetics also offers sequencing of several other dystonia genes.

Sensitivity of Test: Unknown at this time.

Turn Around Time: Maximum of 40 days, although many tests are completed in 2-3 weeks.

Specimen Requirements: See page 4 of the Requisition Form.

Prices: Tier 1: Sequencing of exon 1 of the *PNKD* Gene **\$190**
 Tier 2: Sequencing of the remaining 9 coding exons of the *PNKD* Gene **\$350**
 Tiers 1 and 2 Combined **\$540**

CPT Codes:

Codes	Description	Tier 1 Only	Tier 2 Only	Tier 1 + Tier 2
83890	Ascertainment	\$ 30 (x1)	\$ 30 (x1)	\$ 30 (x1)
83891	DNA Isolation	\$ 40 (x1)	\$ 40 (x1)	\$ 40 (x1)
83898	Amplification	\$ 25 (x1)	\$ 68 (x9)	\$144 (x10)
83904	Mutation Ident by Sequencing	\$ 35 (x1)	\$102 (x9)	\$216 (x10)
83894	Separation	\$ 15 (x1)	\$ 40 (x1)	\$ 40 (x1)
83912	Interpretation and Report	\$ 45 (x1)	\$ 70 (x1)	\$ 70 (x1)
Totals:		\$190	\$350	\$540

Single exon sequencing for detection of previously identified familial mutations is also available for \$190.

Accreditation Info. CLIA ID #: 52D1027685 (expires 1/18/13) (CAP#: 7185561, AU ID: 1407125 expires 12/20/12)

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