Transcriptional Adaptor 1-Like

Alternative Names
TADA1L
TADA1
HFI1/ADA1, Yeast, Homolog of
SPT3-Associated Factor 42
STAF42

Record Category
Gene locus

WHO-ICD
N/A to gene loci

Incidence per 100,000 Live Births
N/A to gene loci

OMIM Number
612763

Mode of Inheritance
N/A to gene loci

Gene Map Locus
1q24.1

Description
The TADA1 gene encodes a protein subunit of the STAGA complex. Other proteins involved in this complex include SUPT3H, GCN5L2, TAF5L, TAF6L, SUPT7L, TADA3L, TAD1L, TAF10, TAF12, TRRAP and TAF9. The STAGA complex is an acyl-CoA-dependent transcriptional coactivator that is involved in transcriptional regulation, DNA damage repair and chromatin modification via histone H3 acetylation.

Molecular Genetics
The TADA1 gene is located on the long arm of chromosome 1 at position 1q24.1. It spans a length of 19.9 kb of DNA and its coding sequence is spread across 8 exons. The protein product encoded by TADA1 has a molecular mass of 37 kDa and is made up of 335 amino acids. The gene is found to be overexpressed in the retina, T cells and monocytes.

Epidemiology in the Arab World
Saudi Arabia
Anazi et al. (2016) described the effectiveness of genomic tools as a first-tier test in the diagnosis of Intellectual Disability (ID) cases. A cohort of 337 ID patients were subjected to molecular karyotyping, exome sequencing and a multi-gene panel comprised of neurologically associated genes. Genomic tools were found to have a higher diagnostic yield than standard clinical evaluations (58% vs 16%). In a 3.5 year old Saudi boy, this approach helped uncover a de-novo nonsense c.598C>T (p.Arg200*) mutation in the TADA1 gene. The mutation was a loss-of-function variant, was novel based on 1500 Saudi exomes and there were no other candidate variants. It was noted that patient was born to first-degree consanguineous parents and suffered from ID, developmental delay and autistic behavior.

References
Anazi S, Maddirevula S, Faqeih E, Alsedairy H, Alzahrani F, Shamseldin HE, Patel N, Hashem M, Ibrahim N, Abdulwahab F, Ewida N, Alsaif HS, Al Sharif H, Alamoudi W, Kentab A, Bashiri FA, Alnaser M, AlWadei AH, Alfadhel M, Eyaid W, Hashem A, Al Asmari A, Saleh MM, AlSaman A, Alhasan KA, Alsughayir M, Al Shammari M, Mahmoud A, Al-Hassnan ZN, Al-Husain M, Osama Khalil R, Abd El Meguid N, Masri A, Ali R, Ben-Omran T, El Fishway P, Hashish A, Ercan Sencicek A, State M, Alazami AM, Salih MA, Altassan N, Arold ST, Abouelhoda M, Wakil SM, Monies D, Shaheen R, Alkuraya FS. Clinical genomics expands the morbid genome of intellectual disability and offers a high diagnostic yield. Mol Psychiatry. 2016 Jul 19. PMID: 27431290.

Related CTGA Records

External Links
http://www.genecards.org/cgi-bin/carddisp.pl?gene=TADA1

Contributors
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