BÖLÜM
12

Adenoviridae, Anelloviridae, Asfarviridae ve Circoviridae

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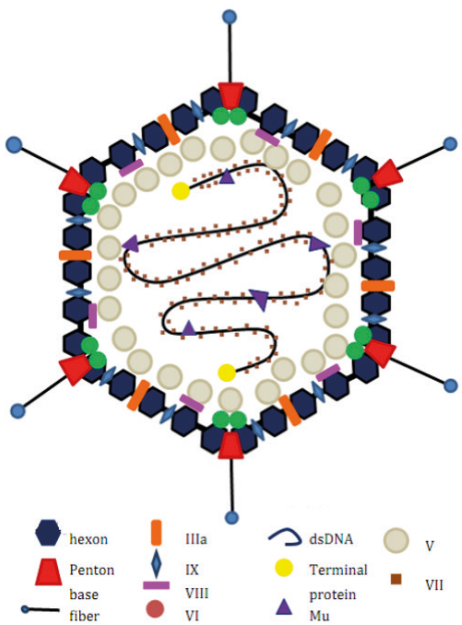
ADENOVIRIDAE GENEL BİLGİLER

İlk olarak 1947 yılında köpeklere ait örneklerden izole edilmiş olan Adenoviruslar insan adenoid dokusundan elde edilen hücre kültürlerinde tanımlanmıştır ve adını izole edildiği dokunun adından almıştır. Adenoviruslar, yapılarının uygunluğu nedeniyle moleküler biyoteknoloji alanında genetik materyal taşıyıcısı (vektör) olarak sıklıkla kullanılmaktadır. Bugüne kadar tanımlanmış adenovirus serotiplerinin sayısı 100'ü aşmıştır. *Adenoviridae* ailesi, virusların genetik yapıları, virion morfolojileri ve serotiplere bağlı antijenik farklılıkları dikkate alınarak sınıflandırılmıştır. İnsanlarda ve çok farklı hayvan türlerinde (memeliler, kuşlar, balıklar, keseli hayvanlar kurbağa, kaplumbağa ve sürüngenler) enfeksiyon oluşturabilen bu viruslar, türler arası geçiş konusunda oldukça sınırlı olup, konak özgüllüğü göstermektedir.

Yaklaşık 70–90 nanometre çapında olan ve ikozahedral simetri gösteren virion zarfsız olup, 35-36 kilobaz uzunluğunda lineer çift sarmallı DNA genomu taşır. Adenovirusların hekzon ve penton adı verilen iki tip kapsomerden oluşan kapsid yapısında pentonların ucunda fiber proteinleri bulunur (Şekil 12.1). Virusun konak hücrelere tutunmasını sağlayan fiberler viral bağlanma proteinleri olup, virusun konak hücreye giriş mekanizmasında rol oynamaktadır. Ayrıca bu proteinler hemaglutinasyon özelliği gösterebilir ve serotiplendirme sürecinde önemli ayırt edici yapılardır. Adenovirusların konak hücreye girişinde rol oynayan başlıca reseptör, Coxsackie-Adenovirus Reseptörü (CAR) olarak tanımlanmıştır. Bu reseptör, akciğer, trakea, göz korneası, bağırsak epiteli, kalp ve karaciğer gibi pek çok dokuda eksprese edilir. Bu yaygın dağılım, adenovirusların çeşitli doku ve organ sistemlerinde enfeksiyon oluşturma potansiyelini açıklamaktadır. Ayrıca virus konak hücrelerde sitopatojenik etki göstererek çoğalır.

Genomik yapı açısından adenoviruslar, DNA dizilerinde bulunan guanin-sitozin (G-C) oranlarına göre A'dan G'ye kadar yedi ana genetik gruba ayrılmıştır. Bu gruplar arasında genetik benzerlik oranı %5–20 arasında değişirken, aynı grup içerisinde yer alan suşlar %70–95 oranında homoloji göstermektedir. Bu durum, moleküler epidemiyoloji ve filogenetik analizler açısından önemli bir sınıflandırma temelidir.



Şekil 12.1 *Adenovirus yapısı (79)*

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