

Bölüm 1

APELİN HORMONU VE FİZYOLOJİK ETKİLERİ

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GİRİŞ

Apelin reseptörü (APJ) G-proteinine bağlı bir reseptör olarak ilk olarak 1993 yılında O'Dowd ve ark. tarafından tanımlanmıştır (O'Dowd & ark., 1993). Apelin ise Tatamoto & ark tarafından 1998 yılında sığır midesinde, APJ reseptörü ligandı olarak tanımlanmıştır (Tatamoto & ark., 1998). Apelin ve APJ ekspresyonunun merkezi sinir sisteminin yanı sıra akciğer, kalp ve meme bezi gibi periferel dokularda da fazla olduğu ifade edilmektedir (Kleinz & Davenport, 2005). İnsanlarda dalak, timus, prostat, testis, yumurtalık, bağırsak ve beyin de dahil olmak üzere pek çok dokuda APJ mRNA ekspresyonuna rastlanılmaktadır (Edinger & ark., 1998). Sıçanlarda ise böbrek, hipofiz bezi, yumurtalık ve iskelet kasında düşük seviyede eksprese edildiği belirtilmektedir (O'Carroll & ark., 2000). Apelinin kalp, karaciğer, böbrek, testis, yumurtalık, adipoz doku, akciğer ve meme dokusunda eksprese edildiği (Habata & ark., 1999; Kleinz & Davenport, 2005) ve bu hormonu kodlayan genin insanlarda Xq25–26, sıçanlarda ise Xq35, kromozomu üzerinde bulunduğu belirtilmektedir (Wang & ark., 2006). Sığır ve insanlarda 77 amino asitten oluşan apelin preproprotein (preproapelin) yapılarına, karşılık gelen cDNA'ların sekansları ilk olarak Tatamoto ve ark tarafından tespit edilmiştir (Tatamoto & ark., 1998). Ayrıca sığır, insan, sıçan ve fare de apelin prekürsörü olan preproapelinin % 76-95 homolojiye sahip olduğu belirtilmektedir (Habata & ark., 1999). Apelin preproproteininin 55 amino asitten oluşan proproteine daha sonra apelin 36, apelin 17, apelin 13 ve apelin 12 gibi birçok aktif forma dönüş-

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