Pathway enrichment analysis with ReactomePA of the differentially expressed genes (E12/E11 and E13/E12) shows molecular pathways involved in ECM biosynthesis, assembly, and remodeling. It appears that the hallmark processes happening in this developmental states are heavily associated with ECM. ECM and its components have been shown to regulate myoblast fusion, proliferation, and differentiation independent of myogenic regulatory factors.

Collagen is required for myoblast differentiation 1

ECM-integrin interaction is required for successful terminal skeletal muscle differentiation1

When cultured with beta-D-xyloside and sodium chlorate, the expression of creatine kinase is suppressed. However, as exogenous ECM was added, it prevented the inhibitory actions of beta-D-xyloside and sodium chlorate on the expression. This observation suggests that ECM-muscle cells contact is required for differentiation. 1

1. Nandan, D., Clarke, E. P., Ball, E. H. & Sanwal, B. D. Ethyl-3,4-dihydroxybenzoate inhibits myoblast differentiation: Evidence for an essential role of collagen. *J. Cell Biol.* (1990). doi:10.1083/jcb.110.5.1673