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Title: Factors that coordinate mesoderm specification from neuromesodermal progenitors with segmentation during vertebrate axial extension

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Abstract

The formation of the vertebrate body depends on the precise timing and coordination of molecular and morphological events. During vertebrate embryogenesis, the paraxial mesoderm is segmented into structures called somites in a progressive fashion from the anterior to the posterior at the same time as the entire body axis elongates in the posterior direction. Evidence from several vertebrate species indicates that new paraxial mesoderm is continuously induced from neuromesodermal progenitors at the posterior-most end of the embryo. The newly forming mesoderm exists in a specialized environment called the mesodermal progenitor niche. This review will discuss how the progenitor niche coordinates the continuous addition of new mesoderm to the body axis with proper segmentation of this mesoderm upon exit from the niche. I will focus on evidence that the t-box transcription factor Brachyury and its downstream

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