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## Stripe Provides Cues Synergizing with Branchless to Direct Tracheal Cell Migration

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## Abstract

The *Drosophila* tracheal system is an interconnected tubular respiratory network, which is formed by directed stereotypic migration and fusion of branches. Cell migration and specification are determined by combinatorial signaling of several morphogens secreted from the ectoderm. We report the discovery of a group of ectodermal cells, marked by Stripe (Sr) expression, that coordinates tracheal cell migration in the dorsoventral axis. Sr, an EGR family transcription factor, is known to regulate muscle migration. In this study, we show that Sr ectodermal cells also provide signals that are utilized for tracheal migration. These cues are separated in the time course of embryonic development. Initially, tendon-precursor cells are in close proximity to the tracheal cells, and later, when tracheal migration is complete, the muscles displace the trachea and attach to the tendon cells. *sr*-mutant embryos exhibit defects in migration of all tracheal branches. Although the FGF ligand Branchless (Bnl) is expressed in a subset of tendon-precursor cells independently of Sr, Bnl functions cooperatively with proteins induced by Sr in attraction of tracheal branches.

## Keywords

*Drosophila*; trachea; FGF; Branchless; Stripe; EGR; cell migration[Recommended articles](#)[Citing articles \(8\)](#)





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