

ESTABLISHMENT OF THE DORSAL-VENTRAL BOUNDARY IN THE DROSOPHILA WING IMAGINAL DISC

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Herein, we present a gene-protein regulatory network for the establishment of the dorsal-ventral boundary in the *Drosophila* wing imaginal disc. We perform *in silico* experiments by means of a modelling approach that reduces each transcriptional-translational dynamics into a single effective process where Hill-like functions are assumed as regulatory functions. Thus, we show how short-range (receptor-ligand dynamics) together with long-range (morphogen gradient signalling) interactions shape the border and constitute the gene expression pattern that is observed in *in vivo* experiments. Our *in silico* results are complemented with a robustness analysis of the regulatory network.

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