

P054 A tension dependent link between E-cadherin and actin, which involves vinculin and associated proteins

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We have shown that efficient disruption of E-cadherin-dependent cell-cell adhesion by HGF depends on the build-up of acto-myosin based tension. We also find that de-novo formation of E-cadherin-based adhesions depends on cytoskeletal contractility. This implies that a tension-sensitive link between E-cadherin and the actin cytoskeleton exists. In live-cell imaging experiments, we observe a transient presence of a number of proteins, including Vinculin and Vasp, at sites of junction formation as well as junction disruption (upon HGF). These proteins are essential for the efficient formation of E-cadherin adhesions. Thus we hypothesize that these proteins mediate a transient, tension-dependent link between E-cadherin and actin. We are testing this hypothesis using biochemical and (live-cell) imaging assays.