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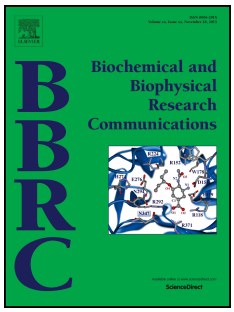

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mDia2 and CXCL12/CXCR4 Chemokine Signaling Intersect to Drive Tumor Cell Amoeboid Morphological Transitions

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Abstract

Morphological plasticity in response to environmental cues in migrating cancer cells requires F-actin cytoskeletal rearrangements. Conserved formin family proteins play critical roles in cell shape, tumor cell motility, invasion and metastasis, in part, through assembly of non-branched actin filaments. Diaphanous-related formin-2 (mDia2/Diaph3/Drf3/Dia) regulates mesenchymal-to-amoeboid morphological conversions and non-apoptotic blebbing in tumor cells by interacting with its inhibitor diaphanous-interacting protein (DIP), and disrupting cortical F-actin assembly and