

Full list of publications

Sitarska E, Almeida SD, Beckwith MS, Stopp J, Czuchnowski J, Siggel M, Roessner R, Tschanz A, Ejsing C, Schwab Y, Kosinski J, Sixt M, Kreshuk A, Erzberger A, Diz-Muñoz A.

Sensing their plasma membrane curvature allows migrating cells to circumvent obstacles.

Nat Commun. 2023 Sep 13;14(1):5644

Riedl M, Mayer I, Merrin J, Sixt M*, Hof B*.

Synchronization in collectively moving inanimate and living active matter. *corresponding authors

Nat Commun. 2023 Sep 13;14(1):5633. doi: 10.1038/s41467-023-41432-1.

Alanko J, Can Ucar M, Canigova N, Stopp J, Schwarz J, Merrin J, Hannezo E, Sixt M.

Sinking the way: a dual role for CCR7 in collective leukocyte migration

Sci Immunol. 2023; eadc9584.

Leithner A, Merrin J, Sixt M.

En-Face Imaging of T Cell-Dendritic Cell Immunological Synapses.

Methods Mol Biol. 2023;2654:137-147

Tomasek K, Leithner A, Glatzova I, Lukesch MS, Guet CC, Sixt M.

Type 1 pilated uropathogenic Escherichia coli hijack the host immune response by binding to CD14.

Elife. 2022 Jul 26;11:e78995.

Assen FP, Abe J, Hons M, Hauschild R, Shamipour S, Kaufmann WA, Costanzo T, Krens G, Brown M, Ludewig B,

Hippenmeyer S, Heisenberg CP, Weninger W, Hannezo E, Luther SA, Stein JV, Sixt M.

Multitier mechanics control stromal adaptations in the swelling lymph node.

Nat Immunol. 2022 Aug;23(8):1246-1255

Gaertner F, Reis-Rodrigues P, de Vries I, Hons M, Aguilera J, Riedl M, Leithner A, Tasciyan S, Kopf A, Merrin J, Zheden V, Kaufmann WA, Hauschild R, Sixt M.

WASp triggers mechanosensitive actin patches to facilitate immune cell migration in dense tissues.

Dev Cell. 2022 Jan 10;57(1):47-62.e9.

Zisis T, Schwarz J, Balles M, Nemethova M, Chait R, Hauschild R, Lange J, Guet C, Sixt M*, Zahler S*

Sequential and Switchable Patterning for Studying Cellular Processes under Spatiotemporal Control *corresponding authors

ACS Appl Mater Interfaces. 2021 Aug 4;13(30):35545-35560

Leithner A, Altenburger LM, Hauschild R, Assen FP, Rottner K, Stradal TEB, Diz-Munoz A, Stein JV, Sixt M.

Dendritic cell actin dynamics controls contact duration and priming efficiency at the immunological synapse

J Cell Biol. 2021 Apr 5;220(4)

Stahnke S, Döring H, Kusch C, de Gorter DJJ, Dütting S, Guledani A, Pleines I, Schnoor M, Sixt M, Geffers R, Rohde M, Müsken M, Kage F, Steffen A, Faix J, Nieswandt B, Rottner K, Stradal TEB.

Loss of Hem1 disrupts macrophage function and impacts migration, phagocytosis, and integrin-mediated adhesion.

Curr Biol. 2021 May 24;31(10):2051-2064

Vahtomeri K, Moussion C, Hauschild R, Sixt M.

Shape and function of interstitial chemokine CCL21 gradients are independent of heparan sulfates produced by lymphatic endothelium

Front. Immunol. 2021 Feb 25;12

Montesinos JC, Abuzeineh A, Kopf A, Juanes-Garcia A, Ötvös K, Petrášek J, Sixt M, Benková E.

Phyttohormone cytokinin guides microtubule dynamics during cell progression from proliferative to differentiated stage.

EMBO J. 2020 Sep 1;39(17)

Salzer E, Zoghi S, Kiss MG, Kage F, Rashkova C, Stahnke S, Haimel M, Platzer R, Caldera M, Ardy RC, Hoeger B, Block J, Medgyesi D, Sin C, Shahkarami S, Kain R, Ziaee V, Hammerl P, Bock C, Menche J, Dupré L, Huppa JB, Sixt M, Lomakin A, Rottner K, Binder CJ, Stradal TEB, Rezaei N, Boztug K.

The cytoskeletal regulator HEM1 governs B cell development and prevents autoimmunity.

Sci Immunol. 2020 Jul 10;5(49)

Reversat A, Gaertner F, Merrin J, Stopp J, Tasciyan S, Aguilera J, de Vries I, Hauschild R, Hons M, Piel M, Callan-Jones A, Voituriez R, Sixt M.

Cellular locomotion using environmental topography.

Nature. 2020 Jun;582(7813):582-585

Kopf A, Renkawitz J, Hauschild R, Girkontaite I, Tedford K, Merrin J, Thorn-Seshold O, Trauner D, Häcker H, Fischer KD, Kiermaier E, Sixt M.

Microtubules control cellular shape and coherence in amoeboid migrating cells.

J Cell Biol. 2020 Jun 1;219(6)

Damiano-Guercio J, Kurzawa L, Mueller J, Dimchev G, Schaks M, Nemethova M, Pokrant T, Brühmann S, Linkner J, Blanchoin L, Sixt M, Rottner K, Faix J.

Loss of Ena/VASP interferes with lamellipodium architecture, motility and integrin-dependent adhesion.

Elife. 2020 May 11;9:e55351

Obeidy P, Ju LA, Oehlers SH, Zulkhernain NS, Lee Q, Galeano Nifo JL, Kwan RY, Tikoo S, Cavanagh LL, Mrass P, Cook AJ, Jackson SP, Biro M, Roediger B, Sixt M, Weninger W
Partial loss of actin nucleator actin-related protein 2/3 activity triggers blebbing in primary T lymphocytes
Immunol Cell Biol. 2020 Feb;98(2):93-113

Yolland L, Burki M, Marcotti S, Luchici A, Kenny FN, Davis JR, Serna-Morales E, Müller J, Sixt M, Davidson A, Wood W, Schumacher LJ, Endres RG, Miodownik M, Stramer BM
Persistent and polarized global actin flow is essential for directionality during cell migration
Nat Cell Biol. 2019 Nov;21(11):1370-1381.

Renkawitz J, Kopf A, Stopp J, de Vries I, Driscoll MK, Merrin J, Hauschild R, Welf ES, Danuser G, Fiolka R, Sixt M
Nuclear positioning facilitates amoeboid migration along the path of least resistance
Nature. 2019 Apr;568(7753):546-550.

Hross S, Theis FJ, Sixt M, Hasenauer J
Mechanistic description of spatial processes using integrative modelling of noise-corrupted imaging data
J R Soc Interface. 2018 Dec 21;15(149):20180600.

Renkawitz J, Reversat A, Leithner A, Merrin J, Sixt M
Micro-engineered "pillar forests" to study cell migration in complex but controlled 3D environments
Methods Cell Biol. 2018.

Dolati S, Kage F, Mueller J, Müsken M, Kirchner M, Dittmar G, Sixt M, Rottner K, Falcke M
On the relation between filament density, force generation, and protrusion rate in mesenchymal cell motility
Mol Biol Cell. 2018 Nov 1;29(22):2674-2686.

Moalli F, Ficht X, Germann P, Vladymyrov M, Stolp B, de Vries I, Lyck R, Balmer J, Fiocchi A, Kreutzfeldt M, Merkler D, Iannacone M, Ariga A, Stoffel MH, Sharpe J, Bähler M, Sixt M, Diz-Muñoz A, Stein JV
The Rho regulator Myosin IXb enables nonlymphoid tissue seeding of protective CD8⁺ T cells
J Exp Med. 2018 Jul 2;215(7):1869-1890.

Brown M, Johnson LA, Leone DA, Majek P, Vaahtomeri K, Senfter D, Bukosza N, Schachner H, Asfour G, Langer B, Hauschild R, Parapatics K, Hong YK, Bennett KL, Kain R, Detmar M, Sixt M*, Jackson DG, Kerjaschki D*.
Lymphatic exosomes promote dendritic cell migration along guidance cues. *corresponding authors
J Cell Biol. 2018 Jun 4;217(6):2205-2221.

Hons M, Kopf A, Hauschild R, Leithner A, Gaertner F, Abe J, Renkawitz J, Stein JV*, Sixt M*.
Chemokines and integrins independently tune actin flow and substrate friction during intranodal migration of T cells.
*corresponding authors
Nat Immunol. 2018 Jun;19(6):606-616.

Brown M, Assen FP, Leithner A, Abe J, Schachner H, Asfour G, Bago-Horvath Z, Stein JV, Uhrin P, Sixt M*, Kerjaschki D*.
Lymph node blood vessels provide exit routes for metastatic tumor cell dissemination in mice. *corresponding authors
Science. 2018 Mar 23;359(6382):1408-1411.

Leithner A, Renkawitz J, De Vries I, Hauschild R, Haecker H, Sixt M
Fast and efficient genetic engineering of hematopoietic precursor cells for the study of dendritic cell migration
European J Immunol. 2018

Gaertner F, Ahmad Z, Rosenberger G, Fan S, Nicolai L, Busch B, Yavuz G, Luckner M, Ishikawa-Ankerhold H, Hennel R, Benechet A, Lorenz M, Chandraratne S, Schubert I, Helmer S, Striednig B, Janko M, Böttcher RT, Verschoor A, Leon C, Gachet C, Gudermann T, Mederos Y Schnitzler M, Pincus Z, Iannacone M, Haas R, Wanner G, Lauber K, Sixt M, Massberg S.
Migrating Platelets Are Mechano-scavengers that Collect and Bundle Bacteria.
Cell. 2017 Nov 30;171(6):1368-1382.e23.

Spira F, Cuylen-Haering S, Mehta S, Samwer M, Reversat A, Verma A, Oldenbourg R, Sixt M, Gerlich DW.
Cytokinesis in vertebrate cells initiates by contraction of an equatorial actomyosin network composed of randomly oriented filaments.
Elife. 2017 Nov 6;6. pii: e30867. doi:

Mueller J, Szep G, Nemethova M, de Vries I, Lieber AD, Winkler C, Kruse K, Small JV, Schmeiser C, Keren K, Hauschild R, Sixt M.
Load Adaptation of Lamellipodial Actin Networks.
Cell. 2017 Sep 21;171(1):188-200.

Veß A, Blache U, Leitner L, Kurz ARM, Ehrenpfordt A, Sixt M, Posern G.
A dual phenotype of MDA-MB-468 cancer cells reveals mutual regulation of tensin3 and adhesion plasticity.
J Cell Sci. 2017 Jul 1;130(13):2172-2184.

Ebner F, Sedlyarov V, Tasciyan S, Ivin M, Kratochvill F, Gratz N, Kenner L, Villunger A, Sixt M, Kovarik P.
The RNA-binding protein tristetraprolin schedules apoptosis of pathogen-engaged neutrophils during bacterial infection.
J Clin Invest. 2017 Jun 1;127(6):2051-2065.

Vaahtomeri K, Brown M, Hauschild R, De Vries I, Leithner AF, Mehling M, Kaufmann WA, Sixt M.

Locally Triggered Release of the Chemokine CCL21 Promotes Dendritic Cell Transmigration across Lymphatic Endothelia.
Cell Rep. 2017 May 2;19(5):902-909.

Schwarz J, Bierbaum V, Vaahtomeri K, Hauschild R, Brown M, de Vries I, Leithner A, Reversat A, Merrin J, Tarrant T, Bollenbach T, Sixt M
Dendritic Cells Interpret Haptotactic Chemokine Gradients in a Manner Governed by Signal-to-Noise Ratio and Dependent on GRK6.
Curr Biol. 2017 May 8;27(9):1314-1325.

Kage F, Winterhoff M, Dimchev V, Mueller J, Thalheim T, Freise A, Brühmann S, Kollasser J, Block J, Dimchev G, Geyer M, Schnittler HJ, Brakebusch C, Stradal TE, Carlier MF, Sixt M, Käs J, Faix J, Rottner K.
FMNL formins boost lamellipodial force generation.
Nat Commun. 2017 Mar 22;8:14832.

Horsthemke M, Bachg AC, Groll K, Moyzio S, Müther B, Hemkemeyer SA, Wedlich-Söldner R, Sixt M, Tacke S, Bähler M, Hanley PJ.
Multiple roles of filopodial dynamics in particle capture and phagocytosis and phenotypes of Cdc42 and Myo10 deletion.
J Biol Chem. 2017 Apr 28;292(17):7258-7273.

Schwarz J, Bierbaum V, Merrin J, Frank T, Hauschild R, Bollenbach T, Tay S, Sixt M*, Mehling M*.
A microfluidic device for measuring cell migration towards substrate-bound and soluble chemokine gradients.
Sci Rep. 2016 Nov 7;6:36440.

Martins R, Maier J, Gorki AD, Huber KV, Sharif O, Starkl P, Saluzzo S, Quattrone F, Gawish R, Lakovits K, Aichinger MC, Radic-Sarikas B, Lardeau CH, Hladik A, Korosec A, Brown M, Vaahtomeri K, Duggan M, Kerjaschki D, Esterbauer H, Colinge J, Eisenbarth SC, Decker T, Bennett KL, Kubicek S, Sixt M, Superti-Furga G, Knapp S.
Heme drives hemolysis-induced susceptibility to infection via disruption of phagocyte functions.
Nat Immunol. 2016 Dec;17(12):1361-1372.

Salzer E, Cagdas D, Hons M, Mace EM, Garncarz W, Petronczki ÖY, Platzer R, Pfajfer L, Bilic I, Ban SA, Willmann KL, Mukherjee M, Supper V, Hsu HT, Banerjee PP, Sinha P, McClanahan F, Zlabinger GJ, Pickl WF, Gribben JG, Stockinger H, Bennett KL, Huppa JB, Dupré L, Sanal Ö, Jäger U, Sixt M, Tezcan I, Orange JS, Boztug K.
RASGRP1 deficiency causes immunodeficiency with impaired cytoskeletal dynamics.
Nat Immunol. 2016 Dec;17(12):1352-1360

Leithner A, Eichner A, Müller J, Reversat A, Brown M, Schwarz J, Merrin J, de Gorter DJ, Schur F, Bayerl J, de Vries I, Wieser S, Hauschild R, Lai FP, Moser M, Kerjaschki D, Rottner K, Small JV, Stradal TE, Sixt M.
Diversified actin protrusions promote environmental exploration but are dispensable for locomotion of leukocytes.
Nat Cell Biol. 2016 Nov;18(11):1253-1259.

Schwarz J, Sixt M.
Quantitative Analysis of Dendritic Cell Haptotaxis.
Methods Enzymol. 2016;570:567-81.

Russo E, Teixeira A, Vaahtomeri K, Willrodt AH, Bloch JS, Nitschké M, Santambrogio L, Kerjaschki D, Sixt M, Halin C.
Intralymphatic CCL21 Promotes Tissue Egress of Dendritic Cells through Afferent Lymphatic Vessels.
Cell Rep. 2016 Feb 23;14(7):1723-1734.

Kiermaier E, Moussion C, Veldkamp CT, Gerardy-Schahn R, de Vries I, Williams LG, Chaffee GR, Phillips AJ, Freiburger F, Imre R, Taleski D, Payne RJ, Braun A, Förster R, Mechtler K, Mühlhoff M, Volkman BF, Sixt M.
Polysialylation controls dendritic cell trafficking by regulating chemokine recognition.
Science. 2016 Jan 8;351(6269):186-90

Veldkamp CT, Kiermaier E, Gabel-Eissens SJ, Gillitzer ML, Lippner DR, DiSilvio FA, Mueller CJ, Wantuch PL, Chaffee GR, Famiglietti MW, Zgoba DM, Bailey AA, Bah Y, Engebretson SJ, Graupner DR, Lackner ER, LaRosa VD, Medeiros T, Olson ML, Phillips AJ, Pyles H, Richard AM, Schoeller SJ, Touzeau B, Williams LG, Sixt M, Peterson FC.
Solution Structure of CCL19 and Identification of Overlapping CCR7 and PSGL-1 Binding Sites.
Biochemistry. 2015 Jul 14;54(27):4163-6

Chabaud M, Heuzé ML, Bretou M, Vargas P, Maiuri P, Solanes P, Maurin M, Terriac E, Le Berre M, Lankar D, Piolt T, Adelstein RS, Zhang Y, Sixt M, Jacobelli J, Bénichou O, Voituriez R, Piel M, Lennon-Duménil AM.
Cell migration and antigen capture are antagonistic processes coupled by myosin II in dendritic cells.
Nat Commun. 2015 Jun 25;6:7526

Holst K, Guseva D, Schindler S, Sixt M, Braun A, Chopra H, Pabst O, Ponimaskin E
The serotonin receptor 5-HT7R regulates the morphology and migratory properties of dendritic cells.
J Cell Sci. 2015 Aug 1;128(15):2866-80

Maiuri P, Rupprecht JF, Wieser S, Ruprecht V, Bénichou O, Carpi N, Coppey M, De Beco S, Gov N, Heisenberg CP, Lage Crespo C, Lautenschlaeger F, Le Berre M, Lennon-Dumenil AM, Raab M, Thiam HR, Piel M*, Sixt M*, Voituriez R*.
Actin flows mediate a universal coupling between cell speed and cell persistence. *corresponding authors
Cell. 2015 Apr 9;161(2):374-86; * corresponding authors

Heger K, Kober M, Rieß D, Drees C, de Vries I, Bertossi A, Roers A, Sixt M, Schmidt-Supprian M.
A novel Cre recombinase reporter mouse strain facilitates selective and efficient infection of primary immune cells with

adenoviral vectors.

Eur J Immunol. 2015 Jun;45(6):1614-20

Ruprecht V, Wieser S, Callan-Jones A, Smutny M, Morita H, Sako K, Barone V, Ritsch-Marte M, Sixt M, Voituriez R, Heisenberg CP.

Cortical contractility triggers a stochastic switch to fast amoeboid cell motility.

Cell. 2015 Feb 12;160(4):673-85.

Stoler-Barak L, Moussion C, Shezen E, Hatzav M, Sixt M, Alon R.

Blood vessels pattern heparan sulfate gradients between their apical and basolateral aspects.

PLoS One. 2014 Jan 22;9(1)

Dueck A, Eichner A, Sixt M, Meister G.

A miR-155-dependent microRNA hierarchy in dendritic cell maturation and macrophage activation.

FEBS Lett. 2014 Feb 14;588(4):632-40

Konradi S, Yasmin N, Haslwanter D, Weber M, Gesslbauer B, Sixt M, Strobl H.

Langerhans cell maturation is accompanied by induction of N-cadherin and the transcriptional regulators of epithelial-mesenchymal transition ZEB1/2.

Eur J Immunol. 2014 Feb;44(2):553-60

Fuertbauer E, Zaujec J, Uhrin P, Raab I, Weber M, Schachner H, Bauer M, Schütz GJ, Binder BR, Sixt M, Kerjaschki D, Stockinger H.

Thymic medullar conduits-associated podoplanin promotes natural regulatory T cells.

Immunol Lett. 2013 Jul-Aug;154(1-2):31-41.

Weber M, Sixt M

Live cell imaging of chemotactic dendritic cell migration in explanted mouse ear preparations

Methods Mol Biol. 2013;1013:215-26

Weber M, Hauschild R, Schwarz J, Moussion C, de Vries I, Legler DF, Luther SA, Bollenbach T, Sixt M

Interstitial dendritic cell guidance by haptotactic chemokine gradients

Science. 2013 Jan 18;339(6117):328-32

Zhang L, Orban M, Lorenz M, Barocke V, Braun D, Urtz N, Schulz C, von Brühl ML, Tirniceriu A, Gaertner F, Proia RL, Graf T, Bolz SS, Montanez E, Prinz M, Müller A, von Baumgarten L, Billich A, Sixt M, Fässler R, von Andrian UH, Junt T, Massberg S.

A novel role of sphingosine 1-phosphate receptor S1pr1 in mouse thrombopoiesis.

J Exp Med. 2012 Nov 12.

Schachtner H, Li A, Stevenson D, Calaminus SD, Thomas SG, Watson SP, Sixt M, Wedlich-Soldner R, Strathdee D, Machesky LM.

Tissue inducible Lifeact expression allows visualization of actin dynamics in vivo and ex vivo.

Eur J Cell Biol. 2012 Nov;91(11-12):923-9.

Hepper I, Schymeinsky J, Weckbach LT, Jakob S, Frommhold D, Sixt M, Laschinger M, Sperandio M, Walzog B.

The mammalian actin-binding protein 1 is critical for spreading and intraluminal crawling of neutrophils under flow conditions.

J Immunol. 2012 May 1;188(9):4590-601.

Wendland M, Willenzon S, Kocks J, Davalos-Misslitz AC, Hammerschmidt SI, Schumann K, Kremmer E, Sixt M, Hoffmeyer A, Pabst O, Förster R

Lymph node T cell homeostasis relies on steady state homing of dendritic cells.

Immunity. 2011 Dec 23;35(6):945-57

Schraivogel D, Weinmann L, Beier D, Tabatabai G, Eichner A, Zhu JY, Anton M, Sixt M, Weller M, Beier CP, Meister G

CAMTA1 is a novel tumour suppressor regulated by miR-9/9* in glioblastoma stem cells.

EMBO J. 2011 Aug 19;30(20):4309-22

Soriano SF, Hons M, Schumann K, Kumar V, Dennier TJ, Lyck R, Sixt M, Stein JV

In vivo analysis of uropod function during physiological T cell trafficking.

J Immunol. 2011 Sep 1;187(5):2356-64.

Sixt M, Lämmermann T

In vitro analysis of chemotactic leukocyte migration in 3D environments.

Methods Mol Biol. 2011;769:149-65.

Link A, Hardie DL, Favre S, Britschgi MR, Adams DH, Sixt M, Cyster JG, Buckley CD, Luther SA

Association of T-zone reticular networks and conduits with ectopic lymphoid tissues in mice and humans.

Am J Pathol. 2011 Apr;178(4):1662-75

Schumann K, Lämmermann T, Bruckner M, Legler DF, Polleux J, Spatz JP, Schuler G, Förster R, Lutz MB, Sorokin L, Sixt M

Immobilized chemokine fields and soluble chemokine gradients shape migration patterns of dendritic cells

Immunity. 2010 May 28;32(5):703-13

Mohan H, Krumbholz M, Sharma R, Eisele S, Junker A, Sixt M, Newcombe J, Wekerle H, Hohlfeld R, Lassmann H, Meinl E

Extracellular matrix in multiple sclerosis lesions: Fibrillar collagens, biglycan and decorin are upregulated and associated with infiltrating immune cells.

Brain Pathol, 2010 Sep;20(5):966-75

Riedl J, Flynn KC, Raducanu A, Gärtner F, Beck G, Bösl M, Bradke F, Massberg S, Aszodi A, Sixt M*, Wedlich-Söldner R*
Lifeact mice for studying F-actin dynamics
Nat Methods, 2010 Mar;7(3):168-9

Pflicke H, Sixt M
Preformed portals facilitate dendritic cell entry into afferent lymphatic vessels
J Exp Med, 2009 Dec 21;206(13):2925-35

Renkawitz J, Schumann K, Weber M, Lämmermann T, Pflicke H, Polleux J, Spatz JP, Sixt M
Adaptive force transmission in amoeboid cell migration
Nat Cell Biol, 2009 Dec;11(12):1438-43

Schymeinsky J, Gerstl R, Mannigel I, Niedung K, Frommhold D, Panthel K, Heesemann J, Sixt M, Quast T, Kolanus W, Mocsai A, Wienands J, Sperandio M, Walzog B
A fundamental role of mAbp1 in neutrophils: impact on β 2 integrin-mediated phagocytosis and adhesion in vivo
Blood, 2009 Nov 5;114(19):4209-20

Wolf AM, Hochegger K, Zeiser R, Duerr C, Gerlach UV, Sixt M, Markut L, Baier G, Rosenkranz AR, Wolf D
FTY720 abrogates the therapeutic potential of adoptively transferred Treg via inhibition of IL-2 induced in vivo expansion
J Immunol, 2009 Sep 15;183(6):3751-60

Lämmermann T, Renkawitz J, Wu X, Brakebusch C, Sixt M
Plenary paper: Cdc42-dependent leading edge coordination is essential for interstitial dendritic cell migration.
Blood, 2009 Jun 4;113(23):5703-10

Quast T, Tappertzhofen B, Schild C, Grell J, Czeloth N, Forster R, Alon R, Fraemohs L, Dreck K, Weber C, Lämmermann T, Sixt M, Kolanus W
Cytohesin-1 controls the activation of RhoA and modulates integrin-dependent adhesion and migration of dendritic cells.
Blood, 2009 Jun 4;113(23):5801-10

Moser M, Bauer M, Schmid S, Ruppert R, Schmidt S., Sixt M, Wang HV, Sperandio M, Fässler R
Kindlin-3 is required for β 2 integrin-mediated leukocyte adhesion to endothelial cells.
Nat Med, 2009 Mar;15(3):300-5

Bauer M, Brakebusch C, Coisne C, Sixt M, Wekerle H, Engelhardt B, Fässler R
Beta 1 Integrins differentially control extravasation of inflammatory subsets into the CNS during autoimmunity.
PNAS, 2009 Feb 10;106(6):1920-5

Lämmermann T, Bader BL, Monkley SJ, Worbs T, Wedlich-Söldner R, Hirsch K, Keller M, Förster R, Critchley DR, Fässler R, Sixt M
Rapid leukocyte migration by integrin-independent flowing and squeezing.
Nature, 2008 May 1;453(7191):51-5

Riedl J, Crevenna A, Kessenbrock K, Yu J, Neukirchen D, Bista M, Bradke F, Jenne D, Holak T, Werb Z, Sixt M*, Wedlich-Söldner R*
Lifeact: a versatile marker to visualize F-actin.
Nat Methods, 2008 Jul;5(7):605-7

Kessenbrock K, Fröhlich L, Sixt M, Lämmermann T, Pfister H, Bateman A, Belaaouaj A, Ring J, Ollert M, Fässler R, Jenne DE.
Proteinase 3 and neutrophil elastase enhance inflammation in mice by inactivating antiinflammatory progranulin.
J Clin Invest, 2008 Jul;118(7):2438-47

Frommhold D, Ludwig A, Bixel MG, Zarbock A, Babushkina I, Weissinger M, Cauwenberghs S, Ellies LG, Marth JD, Beck-Sickinger AG, Sixt M, Lange-Sperandio B, Zernecke A, Brandt E, Weber C, Vestweber D, Ley K, Sperandio M
Sialyltransferase ST3Gal-IV controls CXCR2-mediated firm leukocyte arrest during inflammation.
J Exp Med, 2008 Jun 9;205(6):1435-46

Tripp C, Haid B, Flacher V, Sixt M, Peter H, Farkas J, Gschwentner R, Sorokin L, Romani N, Stoitzner P
The lymph vessel network in mouse skin visualized with antibody against the hyaluronan receptor LYVE
Immunobiology, 2008 213(9-10):715-28

Woolf E, Grigorova I, Sagiv A, Grabovsky V, Feigelson S, Shulman Z, Hartmann T, Sixt M, Cyster JG, Alon R
Lymph node chemokines promote sustained T lymphocyte motility without triggering stable integrin adhesiveness in the absence of shear forces.
Nat Immunol, 2007 Oct;8(10):1076-85

Dorn T, Kuhn U, Bungartz G, Stiller S, Bauer M, Ellwart J, Peters T, Scharffetter-Kochanek K, Semmrich M, Laschinger M, Holzmann B, Klinkert WE, Straten PT, Køllgaard T, Sixt M, Brakebusch C
RhoH is important for positive thymocyte selection and T-cell receptor signaling.
Blood, 2007 Mar 15;109(6):2346-55

Drumea-Mirancea M, Wessels JT, Müller CA, Essl M, Eble JA, Tolosa E, Koch M, Reinhardt DP, Sixt M, Sorokin L, Stierhof YD, Schwarz H, Klein G
Characterization of a conduit system containing laminin-5 in the human thymus: a potential transport system for small molecules.
J Cell Sci, 2006 Apr 1;119(Pt 7):1396-405

Chu H, Thievensen I, Sixt M, Lämmermann T, Waisman A, Braun A, Noegel AA, Fässler R
gamma-Parvin is dispensable for hematopoiesis, leukocyte trafficking, and T-cell-dependent antibody response.
Mol Cell Biol, 2006 Mar;26(5):1817-25

Sixt M, Kanazawa N, Selg M, Samson T, Roos G, Reinhardt DP, Pabst R, Lutz MB, Sorokin L
The conduit system transports soluble antigens from the afferent lymph to resident dendritic cells in the T cell area of the lymph node.
Immunity, 2005 Jan;22(1):19-29

Zhang H, Baader S, Sixt M, Kappler J, Rauch U
Neurocan-GFP fusion protein: a new approach to detect hyaluronan on tissue sections and living cells.
J Histochem Cytochem, 2004 Jul;52(7):915-22

Witte V, Laffert B, Rosorius O, Lischka P, Blume K, Galler G, Stilper A, Willbold D, D'Aloja P, Sixt M, Kolanus J, Ott M, Kolanus W, Schuler G, Baur AS
HIV-1 Nef mimics an integrin receptor signal that recruits the polycomb group protein Eed to the plasma membrane.
Mol Cell, 2004 May 28;15(5):933-46

Sixt M, Engelhardt B, Pausch F, Hallmann R, Wendler O, Sorokin LM
Endothelial cell laminin isoforms, laminins 8 and 10, play decisive roles in T cell recruitment across the blood-brain barrier in experimental autoimmune encephalomyelitis.
J Cell Biol, 2001 May 28;153(5):933-46

Sixt M, Hallmann R, Wendler O, Scharffetter-Kochanek K, Sorokin LM
Cell adhesion and migration properties of beta 2-integrin negative polymorphonuclear granulocytes on defined extracellular matrix molecules. Relevance for leukocyte extravasation.
J Biol Chem, 2001 Jun 1;276(22):18878-87

Wolf D, Hallmann R, Sass G, Sixt M, Küsters S, Fregien B, Trautwein C, Tiegs G
TNF-alpha-induced expression of adhesion molecules in the liver is under the control of TNFR1--relevance for concanavalin A-induced hepatitis.
J Immunol, 2001 Jan 15;166(2):1300-7

Reviews and Editorials

Riedl M, Sixt M.
The excitable nature of polymerizing actin and the Belousov-Zhabotinsky reaction.
Front Cell Dev Biol. 2023 11:1287420.

Cremer S, Sixt M.
Review: Principles of disease defence in organisms, superorganisms and societies
Nat Rev Immunol. 2022 Dec;22(12):713-714

Stopp J, Sixt M.
Spotlight: Plan your trip before you leave: The neutrophils' search-and-run journey.
J Cell Biol. 2022 Aug 1;221(8)

Gaertner F, Sixt M.
Comment: Engaging the front wheels to drive through fibrous terrain.
Dev Cell. 2021 Mar 22;56(6):723-725

Sixt M, Lämmermann T.
Comment: T Cells - Bridge-and-Channel Commute to the White Pulp.
Immunity. 2020 May 19;52(5):721-723

Kopf A, Sixt M.
Comment: Gut Homeostasis - Active Migration of Intestinal Epithelial Cells in Tissue Renewal.
Curr Biol. 2019 Oct 21;29(20)

Yamada KM, Sixt M.
Review: Mechanisms of 3D cell migration.
Nat Rev Mol Cell Biol. 2019 Dec;20(12):738-752

Kopf A, Sixt M.
Comment: The Neural Crest Pitches In to Remove Apoptotic Debris.
Cell. 2019 Sep 19;179(1):51-53

Reversat A, Sixt M.
Comment: IgM's exit route.
J Exp Med. 2018 Dec 3;215(12):2959-2961

The cell sets the tone.
Comment: Alanko J, Sixt M.

Elife. 2018 Jun 6;7. pii: e37888

Casano AM, Sixt M.
Comment: A Fat Lot of Good for Wound Healing.
Dev Cell. 2018 Feb 26;44(4):405-406.

Assen FP, Sixt M.
Comment: The Dynamic Cytokine Niche.
Immunity. 2017 Apr 18;46(4):519-520.

Müller J, Sixt M.
Comment: Cell Migration: Making the Waves.
Curr Biol. 2017 Jan 9;27(1):R24-R25

Renkawitz J, Sixt M.
Comment: Formin' a Nuclear Protection.
Cell. 2016 Dec 1;167(6):1448-1449.

Renkawitz J, Sixt M.
Comment: A Radical Break: Restraining Neutrophil Migration.
Dev Cell. 2016 Sep 12;38(5):448-50.

Paluch EK, Aspalter IM, Sixt M.
Review: Focal Adhesion-Independent Cell Migration.
Annu Rev Cell Dev Biol. 2016 Oct 6;32:469-490.

Sixt M, Raz E.
Editorial overview: Cell adhesion and migration.
Curr Opin Cell Biol. 2015 Oct

Sarris M, Sixt M.
Review: Navigating in tissue mazes: chemoattractant interpretation in complex environments.
Curr Opin Cell Biol. 2015 Oct;36:93-102

Kiermaier E, Sixt M.
Comment: IMMUNOLOGY. Fragmented communication between immune cells.
Science. 2015 Sep 4;349(6252):1055-6

Hons M, Sixt M.
Comment: The lymph node filter revealed.
Nat Immunol. 2015 Apr;16(4):338-40

Vahtomeri K, Sixt M.
Comment: Physiology: Relax and come in.
Nature. 2014 Oct 23;514(7523):441-2

Majumdar R, Sixt M, Parent CA.
Review: New paradigms in the establishment and maintenance of gradients during directed cell migration.
Curr Opin Cell Biol. 2014 Oct;30:33-40

Moussion C, Sixt M.
Comment: A conduit to amplify innate immunity.
Immunity. 2013 May 23;38(5):853-4

Sixt M.
Comment: Cell migration: fibroblasts find a new way to get ahead.
J Cell Biol. 2012 Apr 30;197(3):347-9.

Eichner A, Sixt M
Comment: Setting the clock for recirculating lymphocytes.
Sci Signal. 2011 Nov 8;4(198):pe43

Sixt M, Parent CA
Meeting report: Cells on the move in Philadelphia.
Mol Biol Cell. 2011 Mar 15;22(6):724

Sixt M
Review: Interstitial locomotion of leukocytes.
Immunol Lett. 2011 Jul;138(1):32-4

Renkawitz J, Sixt M
Review: Mechanisms of force generation and force transduction during interstitial leukocyte migration
EMBO Rep. 2010 Oct;11(10):744-50

Weber M, Sixt M

Comment: MEK signaling tunes actin treadmilling for interstitial lymphocyte migration
EMBO Journal, 2010 Sep 1;29(17):2861-3

Nourshargh S, Hordijk P, Sixt M

Review: Regulation of leukocyte motility: through venular walls and beyond
Nat Rev Mol Cell Biol, 2010 May;11(5):366-78

Lammermann T, Sixt M

Review: Mechanical modes of amoeboid cell migration
Curr Opin Cell Biol, 2009 Oct;21(5):636-44

Cremer S, Sixt M

Review: Analogies in the evolution of individual and social immunity.
Philos Trans R Soc Lond B Biol Sci, 2009 Jan 12;364(1513):129-42

Lämmermann T, Sixt M

Review: The microanatomy of T-cell responses.
Immunol Rev, 2008 Feb;221:26-43

Lokmic Z, Lämmermann T, Sixt M, Cardell S, Hallmann R, Sorokin L

Review: The extracellular matrix of the spleen as a potential organizer of immune cell compartments.
Semin Immunol, 2008 Feb;20(1):4-13

Sixt M, Bauer M, Lämmermann T, Fässler R

Review: Beta1 integrins: zip codes and signaling relay for blood cells.
Curr Opin Cell Biol, 2006 Oct;18(5):482-90