CURRICULUM VITAE

Martin A. Schwartz, PhD

Version Date: 2/26/2026

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School:

Yale School of Medicine

Education:

09/1972 - 01/1975	BA, New College of the University South Florida, Tampa, FL
09/1975 - 02/1979	PhD, Stanford University, Stanford, CA

Career/Academic Appointments:

01/1979 - 01/1982	Postdoctoral Fellow, MIT, MIT, Cambridge, MA
01/1979 - 01/1982	Postdoctoral fellow, Biology, MIT, Cambridge, MA
01/1983 - 01/1991	Assistant and Associate Professor, Department of Physiology, Harvard University, Boston, MA
01/1991 - 01/2002	Associate and Full Professor, Department of Vascular Biology, Scripps Research Institute, La Jolla Ranch, CA
01/2001 - 02/2002	Professor, Department of Cell Biology and Head of the Division of Vascular Biology, Scripps Research Institute, La Jolla Ranch, CA
01/2002 - 01/2012	Professor, Departments of Microbiology, Cell Biology and Biomedical Engineering, Cardiovascular Research Institute and Mellon Urological Research Institute, University of Virginia, Charlottesville, VA
01/2011 - Present	Professor with Tenure, Internal Medicine, Yale University School of Medicine, New Haven, CT
01/2011 - Present	Member, Yale Cardiovascular Research Center and Program for Vascular Biology and Therapeutics, Yale University School of Medicine, New Haven, CT
03/2011 - Present	Professor, Cardiology (Medicine), Yale School of Medicine, New Haven, CT
07/2011 - Present	Professor, Cell Biology, Yale School of Medicine, New Haven, CT
12/2012 - Present	Robert W. Berliner, Professor, Cardiology (Medicine), Yale School of Medicine, New Haven, CT
07/2014 - 06/2026	Professor, Biomedical Engineering, Yale School of Medicine, New Haven, CT
01/2015 - 01/2021	Visiting Chair in Cell-Matrix Biology, Scripps Research Institute, University of Manchester, UK, Manchester, England, United Kingdom

Administrative Positions:

2001 - 2002	Head, Division of Vascular Biology, Scripps Research Institute, La Jolla Ranch, CA

Professional Honors & Recognition:

International/National/Regional

2009	James O. Davis Lectureship, University of Missouri
2009	Vice Chair, Vascular Cell Biology, Gordon Research Conference
2009	Hayashi Lecturer, Woods Hole MBL Physiology Course, Marine Biology Laboratory
2010	Vice Chair, Signaling by Cell Adhesion Receptors , Gordon Research Conference
2011	Chair, Vascular Cell Biology, Gordon Research Conference
2012	Robert W. Berliner Professor of Medicine, Yale School of Medicine
2012	Chair, Signaling by Cell Adhesion Receptors , Gordon Research Conference
2013	Harold F. Dvorak Plenary Lecture, Harvard Medical School
2013	Andrew P. Somlyo Honorary Lecture, Pennsylvania Muscle Institute, University of Pennsylvania
2016	Fellow of the American Association for Advancement of Science, American Association for Advancement of Science
2017	Joseph Calandra Lecture, Northwestern University
2017	Fellow of the American Society for Cell Biology, American Society for Cell Biology
2019	Bolie Lecture, University of Colorado
2021	Greenblatt Distinguished Lecture, Medical College of Georgia

Grants/Clinical Trials History:

Current Grants

Agency:	National Heart, Lung, and Blood Institute/NIH/DHHS(National Institutes of Health/DHHS)
I.D.#:	1R01HL169510-01
Title:	Flow regulation of the Alk1/Eng pathway in vascular homeostasis and disease
P.I.:	Anne Eichmann
Role:	Co Principal Investigator
Percent effort:	10%
Total costs:	$3,051,647.00
Project period:	07/15/2023 - 05/31/2027

Agency:	National Heart Lung and Blood Institute
I.D.#:	R01HL169510
Title:	Flow regulation of the Alk1/Eng pathway in vascular homeostasis and disease
P.I.:	Anne Eichmann
Role:	Co-PI
Percent effort:	N/A
Total costs:	-
Project period:	07/15/2023 - 05/31/2027

Agency:	National Institute of Neurological Disorders and Stroke
I.D.#:	RF1NS135026
Title:	Regulation of Flt 1 Splicing by Fibronectin and Integrin Signaling During Aging
P.I.:	PATRICK ANDRIES MURPHY
Role:	Co-PI
Percent effort:	N/A
Total costs:	-
Project period:	09/19/2023 - 08/31/2026

Agency:	Yale University
I.D.#:	1RF1NS135026-01
Title:	Regulation of Flt-1 splicing bt fibronectin and integrin signaling during aging
P.I.:	Schwartz, Martin A
Role:	Subaward PI
Percent effort:	10%
Total costs:	$853,209.00 (of which $343,830.00 indirects)
Project period:	09/19/2023 - 08/31/2026

Agency:	National Heart, Lung, and Blood Institute/NIH/DHHS
I.D.#:	1R01HL175052-01
Title:	Metabolism and cell cycle as mediators of fluid shear stress effects on vascular endothelium in health and disease
P.I.:	Martin Schwartz
Role:	PI
Percent effort:	20%
Total costs:	$3,991,716.00
Project period:	07/01/2024 - 06/30/2029

Agency:	National Heart, Lung, and Blood Institute/NIH/DHHS
I.D.#:	1R01HL171773-01A1
Title:	A QUANTITATIVE, PREDICTIVE MODEL OF VASCULAR REMODELING IN HEALTH AND DISEASE
P.I.:	Martin Schwartz
Role:	PI
Percent effort:	10%
Total costs:	$3,736,794.00
Project period:	07/01/2024 - 06/30/2029

Agency:	National Heart, Lung, and Blood Institute/NIH/DHHS
I.D.#:	1P01HL169168-01A1
Title:	Dynamic Cell-Matrix Interactions Dictate Thoracic Aortopathy
P.I.:	Jay Humphrey, Martin Schwartz
Role:	PI

Percent effort: 20%
Total costs: $2,403,625.00
Project period: 12/01/2024 - 11/30/2029

Agency: National Heart Lung and Blood Institute
I.D.#: R01HL171773
Title: A QUANTITATIVE, PREDICTIVE MODEL OF VASCULAR REMODELING IN HEALTH AND DISEASE
P.I.: Martin Schwartz
Role: PI
Percent effort: N/A
Total costs: $2,695,207.00
Project period: 07/10/2024 - 05/31/2028

Agency: National Heart Lung and Blood Institute
I.D.#: R01HL175052
Title: Metabolism and cell cycle as mediators of fluid shear stress effects on vascular endothelium in health and disease
P.I.: Martin Schwartz
Role: PI
Percent effort: N/A
Total costs: -
Project period: 08/13/2024 - 05/31/2028

Agency: National Heart Lung and Blood Institute
I.D.#: R01HL176774
Title: Endothelial protocadherins in vascular development and disease
P.I.: Martin Schwartz
Role: PI
Percent effort: N/A
Total costs: $2,866,208.00
Project period: 08/15/2025 - 05/31/2029

Agency: National Heart Lung and Blood Institute
I.D.#: P01HL169168
Title: Dynamic Cell-Matrix Interactions Dictate Thoracic Aortopathy
P.I.: Jay Humphrey
Role: Subproject-PI
Percent effort: N/A
Total costs: -
Project period: 01/15/2025 - 11/30/2029

Agency: Leducq Foundation
I.D.#: 25CVD03

Title:	ARTERIOGENESIS IN TRANSLATION
P.I.:	P.I.
Role:	Martin Schwartz
Percent effort:	6%
Total costs:	$1,061,236.00
Project period:	01/01/2026 - 12/31/2030

Agency:	Blavatnik Fund
I.D.#:	N/A
Title:	Protocadherin gamma A9 as a therapeutic target in cardiovascular disease
P.I.:	P.I.
Role:	Martin Schwartz
Percent effort:	6%
Total costs:	$150,000.00
Project period:	02/17/2025 - 06/30/2027

Past Grants

Agency:	NIH/NHLBI
I.D.#:	5R01HL135582
Title:	Endothelial-to-mesenchymal transition and atherosclerosis
P.I.:	Martin Schwartz , Michael Simons
Role:	Co-Investigator (Site-Principal Investigator)
Percent effort:	7%
Total costs:	$4,094,443.00
Project period:	01/01/2021 - 12/31/2024

Agency:	DOD/ARO
I.D.#:	W911NF1410403
Title:	Mechanisms of force sensing in adherent cells as inspiration for new materials
P.I.:	Martin Schwartz
Role:	Co-PI
Percent effort:	1%
Total costs:	-
Project period:	07/01/2014 - 08/31/2022

Agency:	NEED
I.D.#:	5R01GM047214
Title:	Mechanisms of mechanosensing through integrins
P.I.:	Martin Schwartz
Role:	PI
Percent effort:	1%
Total costs:	-
Project period:	06/01/2017 - 04/30/2021

Agency:	NIH/NHLBI
I.D.#:	P01HL134605
Title:	Endothelial mechanotransduction in thoracic aneurysm formation and progression
P.I.:	Martin Schwartz
Role:	Project Leader
Percent effort:	20%
Total costs:	$3,008,955.00
Project period:	03/01/2018 - 02/28/2023

Agency:	NIH/NHLBI
I.D.#:	2P01R01HL107205-06A1
Title:	Molecular Mechanisms of Arteriogenesis
P.I.:	Martin Schwartz
Role:	Project Leader
Percent effort:	20%
Total costs:	$2,036,942.00
Project period:	08/18/2018 - 05/31/2023

Agency:	Leducq Foundation
I.D.#:	18CVD03
Title:	LEDUCQ Trans-Atlantic Network on Transcription Factor Klf2 and Cardiovascular Disease
P.I.:	Martin Schwartz
Role:	North American Coordinator
Percent effort:	20%
Total costs:	$1,560,736.00
Project period:	01/01/2019 - 12/31/2023

Agency:	National Heart Lung and Blood Institute
I.D.#:	P01HL107205
Title:	Molecular Mechanisms of Arterigenesis
P.I.:	Michael Simons
Role:	Subproject-PI
Percent effort:	N/A
Total costs:	-
Project period:	02/10/2012 - 10/31/2024

Agency:	National Heart Lung and Blood Institute
I.D.#:	R01HL155543
Title:	Fluid shear stress mechanotransduction at endothelial cell-cell junctions
P.I.:	Martin Schwartz
Role:	PI
Percent effort:	N/A

Total costs: -
Project period: 01/01/2021 - 12/31/2024

Agency: National Institute of General Medical Sciences
I.D.#: P01GM098412
Title: Ultrastructural Basis of Mechanotransduction in Matrix Adhesions
P.I.: DORIT HANEIN
Role: Subproject-PI
Percent effort: N/A
Total costs: -
Project period: 09/30/2011 - 08/31/2017

Agency: National Heart Lung and Blood Institute
I.D.#: P01HL048728
Title: CELL ADHESION MECHANISMS IN VASCULAR DISEASE
P.I.: MARK HOWARD GINSBERG
Role: Subproject-PI
Percent effort: N/A
Total costs: -
Project period: 09/30/1992 - 08/31/2004

Agency: National Heart Lung and Blood Institute
I.D.#: P01HL057900
Title: Integrin Signaling in Hemostasis and Blood Diseases
P.I.: SANFORD J SHATTIL
Role: Subproject-PI
Percent effort: N/A
Total costs: -
Project period: 04/01/1997 - 01/31/2014

Agency: National Institute of General Medical Sciences
I.D.#: R01GM032377
Title: CROSSLINKING STUDIES MEMBRANE CYTOSKELETON INTERACTIONS
P.I.: Martin Schwartz
Role: PI
Percent effort: N/A
Total costs: -
Project period: 07/01/1985 - 06/30/1988

Agency: National Institute of General Medical Sciences
I.D.#: R01GM047214
Title: Mechanisms of mechanosensing through integrins
P.I.: Martin Schwartz
Role: PI

Percent effort: N/A
Total costs: -
Project period: 06/01/1991 - 04/30/2022

Agency: National Heart Lung and Blood Institute
I.D.#: R01HL075092
Title: Endothelial Mechanisms of Flow Sensing and Atherosclerosis
P.I.: Martin Schwartz
Role: PI
Percent effort: N/A
Total costs: -
Project period: 12/29/2003 - 01/31/2021

Agency: National Heart Lung and Blood Institute
I.D.#: R01HL080956
Title: Engineering an Atherosclerosis-Resistant Endothelium
P.I.: Martin Schwartz
Role: PI
Percent effort: N/A
Total costs: -
Project period: 08/01/2007 - 05/31/2012

Agency: National Institute of Allergy and Infectious Diseases
I.D.#: R13AI088691
Title: 2010 Signalling by Adhesion Receptors Gordon Research Conference
P.I.: Martin Schwartz
Role: PI
Percent effort: N/A
Total costs: -
Project period: 04/01/2010 - 07/31/2010

Agency: National Institute of Allergy and Infectious Diseases
I.D.#: R13AI100533
Title: 2012 Signaling by Adhesion Receptor Gordon Research Conference and Frontiers in A
P.I.: Martin Schwartz
Role: PI
Percent effort: N/A
Total costs: -
Project period: 03/06/2012 - 02/28/2013

Agency: National Cancer Institute
I.D.#: R13CA086059
Title: INTEGRINS, GROWTH FACTORS AND SIGNALING PATHWAY REGULATI

P.I.: Martin Schwartz
Role: PI
Percent effort: N/A
Total costs: -
Project period: 03/10/2000 - 03/09/2001

Agency: National Heart Lung and Blood Institute
I.D.#: R13HL106923
Title: 2011 Vascular Cell Biology Gordon Research Conference
P.I.: Martin Schwartz
Role: PI
Percent effort: N/A
Total costs: -
Project period: 01/01/2011 - 04/25/2011

Agency: National Center for Advancing Translational Sciences
I.D.#: S10RR011883
Title: CONFOCAL MICROSCOPE SI
P.I.: Martin Schwartz
Role: PI
Percent effort: N/A
Total costs: -
Project period: 06/15/1997 - 06/14/1998

Agency: National Institute of General Medical Sciences
I.D.#: U54GM064346
Title: Cell Migration Consortium
P.I.: ALAN F. RICK HORWITZ
Role: Subproject-PI
Percent effort: N/A
Total costs: -
Project period: 09/15/2001 - 07/31/2014

Agency: National Heart Lung and Blood Institute
I.D.#: R13HL127994
Title: NAVBO Workshops at Vascular Biology 2015
P.I.: Martin Schwartz
Role: PI
Percent effort: N/A
Total costs: -
Project period: 07/01/2015 - 06/30/2016

Agency: Deutsche Forschungsgemeinschaft
I.D.#: 54658571

Title:	Analysis of PECAM-1-dependent mechanotransduction in endothelial cells
P.I.:	Carsten Grashoff
Role:	PI
Percent effort:	N/A
Total costs:	-
Project period:	01/01/2007 - 12/31/2009

Agency:	National Heart Lung and Blood Institute
I.D.#:	R01HL135582
Title:	Endothelial-to-mesenchymal transition and atherosclerosis
P.I.:	Martin Schwartz
Role:	PI
Percent effort:	N/A
Total costs:	-
Project period:	01/12/2017 - 12/31/2024

Agency:	National Heart Lung and Blood Institute
I.D.#:	P01HL134605
Title:	Altered Mechanotransduction as a Therapeutic Target for Thoracic Aortic Aneurysm
P.I.:	DANIEL B RIFKIN
Role:	Subproject-PI
Percent effort:	N/A
Total costs:	-
Project period:	03/01/2018 - 02/29/2024

Agency:	Wellcome Trust Ltd
I.D.#:	202923/Z/16/Z
Title:	A “Molecular Imaging (FLIM/FCS) toolbox” to investigate molecular interactions and activation in super-resolution and widefield mode
P.I.:	Christoph Ballestrem
Role:	Co-PI
Percent effort:	N/A
Total costs:	-
Project period:	07/11/2016 - 10/10/2020

Agency:	Blavatnik Fund
I.D.#:	33343424324
Title:	Protocadherin gamma A9 as a therapeutic target in cardiovascular disease.
P.I.:	P.I.
Role:	Martin Schwartz
Percent effort:	22%
Total costs:	$150,000.00
Project period:	02/01/2026 - 02/06/2026

Invited Speaking Engagements, Presentations & Workshops Not Affiliated With Yale:

International/National

1. "Martin Schwartz and the importance of stupidity in science". Night Science, Podcast, New Haven, CT, April 2025. (Other)
2. "Recent Key Advancements on Mechanotransduction in Cardiovascular Health". Demo Talk, New Haven, CT, August 2025. (Other)

Professional Service:

Peer Review Groups/Grant Study Sections

1993 - 1996	Member, American Heart Association, Member vascular wall study section
1996 - 2000	Member, CDF4, Member CDF4 study section
2008 - 2011	Member, ICI, Member ICI study section
2008 - 2010	Member, NAVBO, Member NAVBO Council
2011 - Present	Reviewer, Nature, Science, Cell, Developmental Cell, PNAS, Nat Cell Biol, Curr Biol, Circ Res.

Journal Services

Editorial boards

1996 - 2008	Associate Editor, Molecular Biology of the Cell
1997 - 2012	Editorial Board Member, Matrix Biology
1998 - 2011	Editorial Board Member, Cell Communication and Adhesion
2001 - Present	Associate Editor, Journal of Cell Biology
2006 - 2015	Associate Editor, Biochemical Journal (2006-2008)
2006 - Present	Editorial Board Member, Journal of Cell Science

Professional Organizations

American Association for Advancement of Science

2012 - Present	Member, American Association for Advancement of Science

American Society for Cell Biology

1991 - Present	Member, American Society for Cell Biology

North American Vascular Biology Organization (NAVBO)

1998 - Present	Member, North American Vascular Biology Organization (NAVBO)

Public Service / Media Presence

Public Service

2011	Committee Member, Vascular Biology and Therapeutics Program

2014 - 2016 Member, Biological Sciences Advisory Committee

Bibliography:

Peer-Reviewed Original Research

1. **Schwartz M** , Dunn T. Platinum hydride addition to geranyl and farnesyl methyl ether. Journal Of The American Chemical Society 1972, 94: 4205-4211. DOI: 10.1021/ja00767a028 .
2. **Schwartz M** , Crowell J, Musser J. Biogenetically patterned approaches to eudesmane sesquiterpenes. Total synthesis of (+-)-junenol. Journal Of The American Chemical Society 1972, 94: 4361-4363. DOI: 10.1021/ja00767a066 .
3. **SCHWARTZ M** , CROWELL J, MUSSER J. ChemInform Abstract: BIOGENESEARTIGE SYNTH. VON EUDESMAN-SESQUITERPENEN, TOTALSYNTH. VON (+-)-JUNENOL. ChemInform 1972, 3: no-no. DOI: 10.1002/chin.197235258 .
4. **Schwartz M** . A circular dichroism study of the effects of a hemolytic toxin from gymnodinium breve, the Florida red tide organism, on human erythrocyte membranes. Journal Of Environmental Science And Health Part A 1976, 11: 573-581. DOI: 10.1080/10934527609385796 .
5. **Schwartz M** , McConnell H. Surface areas of lipid membranes. Biochemistry 1978, 17: 837-40. PMID: 629935 , DOI: 10.1021/bi00598a014 .
6. **Schwartz M** , Parce J, McConnell H. Hydrogen atom exchange between nitroxides and hydroxylamines. Journal Of The American Chemical Society 1979, 101: 3592-3595. DOI: 10.1021/ja00507a026 .
7. **SCHWARTZ M** , PARCE J, MCCONNELL H. ChemInform Abstract: HYDROGEN ATOM EXCHANGE BETWEEN NITROXIDES AND HYDROXYLAMINES. ChemInform 1979, 10: no-no. DOI: 10.1002/chin.197940131 .
8. Parce J, **Schwartz M** , Owicki J, McConnell H. Kinetics of antibody association with spin-label haptens on membrane surfaces. The Journal Of Physical Chemistry 1979, 83: 3414-3417. DOI: 10.1021/j100489a019 .
9. **Schwartz M** , Parce J, McConnell H. Additions and Corrections - Hydrogen Atom Exchange between Nitroxides and Hydroxylamines. Journal Of The American Chemical Society 1980, 102: 890-891. DOI: 10.1021/ja00522a603 .
10. **Schwartz M** , Das O, Hynes R. A new radioactive cross-linking reagent for studying the interactions of proteins. Journal Of Biological Chemistry 1982, 257: 2343-2349. PMID: 7061425 , DOI: 10.1016/s0021-9258(18)34928-7 .
11. Lahav J, **Schwartz M** , Hynes R. Analysis of platelet adhesion with a radioactive chemical crosslinking reagent: Interaction of thrombospondin with fibronectin and collagen. Cell 1982, 31: 253-262. PMID: 7159924 , DOI: 10.1016/0092-8674(82)90425-1 .
12. Sitkovsky M, **Schwartz M** , Eisen H. Cell-Cell Contact Proteins in Antigen-Specific and Antigen-Nonspecific Cellular Cytotoxicity. Advances In Experimental Medicine And Biology 1985, 184: 429-449. PMID: 3875975 , DOI: 10.1007/978-1-4684-8326-0_29 .
13. **Schwartz M** . A 125I-radiolabel transfer crosslinking reagent with a novel cleavable group. Analytical Biochemistry 1985, 149: 142-152. PMID: 4073473 , DOI: 10.1016/0003-2697(85)90487-7 .

14. **Schwartz M** , Luna E. Binding and assembly of actin filaments by plasma membranes from Dictyostelium discoideum. Journal Of Cell Biology 1986, 102: 2067-2075. PMID: 2423531 , PMCID: PMC2114255 , DOI: 10.1083/jcb.102.6.2067 .
15. **Schwartz M** , Luna E. How actin binds and assembles onto plasma membranes from Dictyostelium discoideum. Journal Of Cell Biology 1988, 107: 201-209. PMID: 3392099 , PMCID: PMC2115166 , DOI: 10.1083/jcb.107.1.201 .
16. **Schwartz M** . Studying the Cytoskeleton by Label Transfer Crosslinking: Uses and Limitations. Nato Science Series C: 1989, 157-168. DOI: 10.1007/978-94-009-0925-0_11 .
17. **Schwartz M** , Both G, Lechene C. Effect of cell spreading on cytoplasmic pH in normal and transformed fibroblasts. Proceedings Of The National Academy Of Sciences Of The United States Of America 1989, 86: 4525-4529. PMID: 2734302 , PMCID: PMC287303 , DOI: 10.1073/pnas.86.12.4525 .
18. Tranter M, Sugrue S, **Schwartz M** . Evidence for a direct, nucleotide-sensitive interaction between actin and liver cell membranes. Journal Of Cell Biology 1989, 109: 2833-2840. PMID: 2592407 , PMCID: PMC2115935 , DOI: 10.1083/jcb.109.6.2833 .
19. **Schwartz M** , Cragoe E, Lechene C. pH regulation in spread cells and round cells. Journal Of Biological Chemistry 1990, 265: 1327-1332. PMID: 2153127 , DOI: 10.1016/s0021-9258(19)40017-3 .
20. **Schwartz M** , Rupp E, Frangioni J, Lechene C. Cytoplasmic pH and anchorage-independent growth induced by v-Ki-ras, v-src or polyoma middle T. Oncogene 1990, 5: 55-8. PMID: 2181378 .
21. Ingber D, Prusty D, Frangioni J, Cragoe E, Lechene C, **Schwartz M** . Control of intracellular pH and growth by fibronectin in capillary endothelial cells. Journal Of Cell Biology 1990, 110: 1803-1811. PMID: 2159481 , PMCID: PMC2200182 , DOI: 10.1083/jcb.110.5.1803 .
22. BECKER P, **SCHWARTZ M** , MORROW J, Samuel E. Radiolabel-transfer cross-linking demonstrates that protein 4.1 binds to the N-terminal region of β spectrin and to actin in binary interactions. The FEBS Journal 1990, 193: 827-836. PMID: 2249696 , DOI: 10.1111/j.1432-1033.1990.tb19406.x .
23. Tranter M, Sugrue S, **Schwartz M** . Binding of actin to liver cell membranes: the state of membrane-bound actin. Journal Of Cell Biology 1991, 112: 891-901. PMID: 1705560 , PMCID: PMC2288875 , DOI: 10.1083/jcb.112.5.891 .
24. Schwartz M, Venkataraman S, Ghaffari M, Libby A, Mookhtiar K, Mallya S, Birkedal-Hansen H, Van Wart H. Inhibition of human collagenases by sulfur-based substrate analogs. Biochemical And Biophysical Research Communications 1991, 176: 173-179. PMID: 1850255 , DOI: 10.1016/0006-291x(91)90905-m .
25. **Schwartz M** , Ingber D, Lawrence M, Springer T, Lechene C. Multiple integrins share the ability to induce elevation of intracellular pH. Experimental Cell Research 1991, 195: 533-535. PMID: 1712734 , DOI: 10.1016/0014-4827(91)90407-l .
26. **Schwartz M** , Lechene C, Ingber D. Insoluble fibronectin activates the Na/H antiporter by clustering and immobilizing integrin alpha 5 beta 1, independent of cell shape. Proceedings Of The National Academy Of Sciences Of The United States Of America 1991, 88: 7849-7853. PMID: 1652767 , PMCID: PMC52401 , DOI: 10.1073/pnas.88.17.7849 .
27. Schwartz M, Van Wart H. 8 Synthetic Inhibitors of Bacterial and Mammalian Interstitial Collagenases. 1992, 29: 271-334. PMID: 1475372 , DOI: 10.1016/s0079-6468(08)70011-0 .

28. **Schwartz M** , Venkataraman S, Libby A, Mookhtiar K, Mallya S, Van Wart H, Birkedal-Hansen H. Sulfur-based inhibitors for matrix metalloproteinases. Matrix (Stuttgart, Germany). Supplement 1992, 1: 309-10. PMID: 1480043 .
29. **Schwartz M** , Lechene C. Adhesion is required for protein kinase C-dependent activation of the Na+/H+ antiporter by platelet-derived growth factor. Proceedings Of The National Academy Of Sciences Of The United States Of America 1992, 89: 6138-6141. PMID: 1378621 , PMCID: PMC402137 , DOI: 10.1073/pnas.89.13.6138 .
30. **Schwartz M** . Transmembrane signalling by integrins. Trends In Cell Biology 1992, 2: 304-308. PMID: 14731926 , DOI: 10.1016/0962-8924(92)90120-c .
31. **Schwartz M** . Spreading of human endothelial cells on fibronectin or vitronectin triggers elevation of intracellular free calcium. Journal Of Cell Biology 1993, 120: 1003-1010. PMID: 7679387 , PMCID: PMC2200079 , DOI: 10.1083/jcb.120.4.1003 .
32. Leavesley D, **Schwartz M** , Rosenfeld M, Cheresh D. Integrin beta 1- and beta 3-mediated endothelial cell migration is triggered through distinct signaling mechanisms. Journal Of Cell Biology 1993, 121: 163-170. PMID: 7681432 , PMCID: PMC2119781 , DOI: 10.1083/jcb.121.1.163 .
33. **Schwartz M** . Signaling by integrins: implications for tumorigenesis. Cancer Research 1993, 53: 1503-6. PMID: 8453614 .
34. McNamee H, Ingber D, **Schwartz M** . Adhesion to fibronectin stimulates inositol lipid synthesis and enhances PDGF-induced inositol lipid breakdown. Journal Of Cell Biology 1993, 121: 673-678. PMID: 8387531 , PMCID: PMC2119575 , DOI: 10.1083/jcb.121.3.673 .
35. Meredith J, Fazeli B, **Schwartz M** . The extracellular matrix as a cell survival factor. Molecular Biology Of The Cell 1993, 4: 953-961. PMID: 8257797 , PMCID: PMC275725 , DOI: 10.1091/mbc.4.9.953 .
36. **Schwartz M** , Brown E, Fazeli B. A 50-kDa integrin-associated protein is required for integrin-regulated calcium entry in endothelial cells. Journal Of Biological Chemistry 1993, 268: 19931-19934. PMID: 8376355 , DOI: 10.1016/s0021-9258(20)80675-9 .
37. **Schwartz M** . Integrins as Signal Transducing Receptors. 1994, 33-47. DOI: 10.1016/b978-0-08-091729-0.50007-3 .
38. Stuart-Tilley A, Sardet C, Pouyssegur J, **Schwartz M** , Brown D, Alper S. Immunolocalization of anion exchanger AE2 and cation exchanger NHE-1 in distinct adjacent cells of gastric mucosa. American Journal Of Physiology 1994, 266: c559-c568. PMID: 8141271 , DOI: 10.1152/ajpcell.1994.266.2.c559 .
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Commentaries, Editorials and Letters

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