Eric V Shusta

List of Publications by Year
in descending order

106 papers	8,047 citations	57758 44 h-index	51608 86 g-index
116 all docs	116 docs citations	116 times ranked	8203 citing authors

#	Article	IF	Citations
1	Derivation of blood-brain barrier endothelial cells from human pluripotent stem cells. Nature Biotechnology, 2012, 30, 783-791.	17.5	623
2	InÂvitro models of the bloodâ€“brain barrier: An overview of commonly used brain endothelial cell culture models and guidelines for their use. Journal of Cerebral Blood Flow and Metabolism, 2016, 36, 862-890.	4.3	588
3	Bloodâ€“Brain Barrier Transport of Therapeutics via Receptor-Mediation. Pharmaceutical Research, 2007, 24, 1759-1771.	3.5	431
4	A retinoic acid-enhanced, multicellular human blood-brain barrier model derived from stem cell sources. Scientific Reports, 2014, 4, 4160.	3.3	390
5	Hypoxia-enhanced Blood-Brain Barrier Chip recapitulates human barrier function and shuttling of drugs and antibodies. Nature Communications, 2019, 10, 2621.	12.8	371
6	Targeting Receptor-Mediated Transport for Delivery of Biologics Across the Blood-Brain Barrier. Annual Review of Pharmacology and Toxicology, 2015, 55, 613-631.	9.4	291
7	Efficient Differentiation of Human Pluripotent Stem Cells to Endothelial Progenitors via Small-Molecule Activation of WNT Signaling. Stem Cell Reports, 2014, 3, 804-816.	4.8	271
8	Increasing the secretory capacity of Saccharomyces cerevisiae for production of single-chain antibody fragments. Nature Biotechnology, 1998, 16, 773-777.	17.5	244
9	Directed evolution of a stable scaffold for T-cell receptor engineering. Nature Biotechnology, 2000, 18, 754-759.	17.5	234
10	Yeast polypeptide fusion surface display levels predict thermal stability and soluble secretion efficiency 1 1Edited by J. A. Wells. Journal of Molecular Biology, 1999, 292, 949-956.	4.2	233
11	An isogenic bloodâ€“brain barrier model comprising brain endothelial cells, astrocytes, and neurons derived from human induced pluripotent stem cells. Journal of Neurochemistry, 2017, 140, 874-888.	3.9	201
12	Modeling Psychomotor Retardation using iPSCs from MCT8-Deficient Patients Indicates a Prominent Role for the Blood-Brain Barrier. Cell Stem Cell, 2017, 20, 831-843.e5.	11.1	181
13	Directed differentiation of human pluripotent stem cells to blood-brain barrier endothelial cells. Science Advances, 2017, 3, e1701679.	10.3	177
14	A Decade of Yeast Surface Display Technology: Where Are We Now?. Combinatorial Chemistry and High Throughput Screening, 2008, 11, 127-134.	1.1	161
15	Human pluripotent stem cellâ€“derived brain pericyteâ€“like cells induce blood-brain barrier properties. Science Advances, 2019, 5, eaau7375.	10.3	135
16	Differentiation and characterization of human pluripotent stem cell-derived brain microvascular endothelial cells. Methods, 2016, 101, 93-102.	3.8	123
17	Puromycin-purified rat brain microvascular endothelial cell cultures exhibit improved barrier properties in response to glucocorticoid induction. Journal of Neurochemistry, 2006, 97, 922-933.	3.9	120
18	Exploring the effects of cell seeding density on the differentiation of human pluripotent stem cells to brain microvascular endothelial cells. Fluids and Barriers of the CNS, 2015, 12, 13.	5.0	106

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19	A Novel High-Throughput Screen Reveals Yeast Genes That Increase Secretion of Heterologous Proteins. Applied and Environmental Microbiology, 2007, 73, 1189-1198.	3.1	105
20	Modeling the bloodâ€“brain barrier using stem cell sources. Fluids and Barriers of the CNS, 2013, 10, 2.	5.0	105
21	Differentiating embryonic neural progenitor cells induce blood?brain barrier properties. Journal of Neurochemistry, 2007, 101, 555-565.	3.9	97
22	A Genomic Comparison of in vivo and in vitro Brain Microvascular Endothelial Cells. Journal of Cerebral Blood Flow and Metabolism, 2008, 28, 135-148.	4.3	97
23	A human three-dimensional neural-perivascular â€˜assembloidâ€™ promotes astrocytic development and enables modeling of SARS-CoV-2 neuropathology. Nature Medicine, 2021, 27, 1600-1606.	30.7	94
24	Transcriptomic comparison of human and mouse brain microvessels. Scientific Reports, 2020, 10, 12358.	3.3	89
25	Modeling the bloodâ€“brain barrier: Beyond the endothelial cells. Current Opinion in Biomedical Engineering, 2018, 5, 6-12.	3.4	88
26	Î±B-Crystallin: A Novel Regulator of Breast Cancer Metastasis to the Brain. Clinical Cancer Research, 2014, 20, 56-67.	7.0	87
27	Neuronal Activity Regulates Blood-Brain Barrier Efflux Transport through Endothelial Circadian Genes. Neuron, 2020, 108, 937-952.e7.	8.1	86
28	Mining a yeast library for brain endothelial cell-binding antibodies. Nature Methods, 2007, 4, 143-145.	19.0	83
29	Bloodâ€“brain barrier modeling with coâ€cultured neural progenitor cellâ€derived astrocytes and neurons. Journal of Neurochemistry, 2011, 119, 507-520.	3.9	76
30	Commentary on human pluripotent stem cell-based bloodâ€“brain barrier models. Fluids and Barriers of the CNS, 2020, 17, 64.	5.0	75
31	The use of scFv-displaying yeast in mammalian cell surface selections. Journal of Immunological Methods, 2005, 304, 30-42.	1.4	74
32	High affinity T cell receptors from yeast display libraries block T cell activation by superantigens11Edited by I. A. Wilson. Journal of Molecular Biology, 2001, 307, 1305-1315.	4.2	70
33	An isogenic neurovascular unit model comprised of human induced pluripotent stem cell-derived brain microvascular endothelial cells, pericytes, astrocytes, and neurons. Fluids and Barriers of the CNS, 2019, 16, 25.	5.0	69
34	Development of GFP-based biosensors possessing the binding properties of antibodies. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 11895-11900.	7.1	65
35	Murine in vitro model of the bloodâ€“brain barrier for evaluating drug transport. European Journal of Pharmaceutical Sciences, 2011, 42, 148-155.	4.0	64
36	Secretion and Surface Display of Green Fluorescent Protein Using the Yeast Saccharomyces cerevisiae. Biotechnology Progress, 2008, 21, 349-357.	2.6	62

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37	Production of Soluble and Active Transferrin Receptor-Targeting Single-Chain Antibody using Saccharomyces cerevisiae. Pharmaceutical Research, 2006, 23, 790-797.	3.5	61
38	Concise Review: Tissue-Specific Microvascular Endothelial Cells Derived From Human Pluripotent Stem Cells. Stem Cells, 2014, 32, 3037-3045.	3.2	60
39	Vascular Genomics of the Human Brain. Journal of Cerebral Blood Flow and Metabolism, 2002, 22, 245-252.	4.3	58
40	Bloodâ€"Brain Barrier Modulation to Improve Glioma Drug Delivery. Pharmaceutics, 2020, 12, 1085.	4.5	52
41	Subtractive Expression Cloning Reveals High Expression of CD46 at the Blood-Brain Barrier. Journal of Neuropathology and Experimental Neurology, 2002, 61, 597-604.	1.7	50
42	Bloodâ€"brain barrier genomics and proteomics: elucidating phenotype, identifying disease targets and enabling brain drug delivery. Drug Discovery Today, 2006, 11, 792-799.	6.4	49
43	Protein engineering approaches for regulating bloodâ€"brain barrier transcytosis. Current Opinion in Structural Biology, 2017, 45, 109-115.	5.7	49
44	Cells and cell lysates: A direct approach for engineering antibodies against membrane proteins using yeast surface display. Methods, 2013, 60, 27-37.	3.8	48
45	Regionally specified human pluripotent stem cell-derived astrocytes exhibit different molecular signatures and functional properties. Development (Cambridge), 2019, 146, .	2.5	48
46	Advancing human induced pluripotent stem cellâ€derived bloodâ€brain barrier models for studying immune cell interactions. FASEB Journal, 2020, 34, 16693-16715.	0.5	47
47	Modeling Group B<i>Streptococcus</i>and Blood-Brain Barrier Interaction by Using Induced Pluripotent Stem Cell-Derived Brain Endothelial Cells. MSphere, 2017, 2, .	2.9	46
48	Exploiting BBB disruption for the delivery of nanocarriers to the diseased CNS. Current Opinion in Biotechnology, 2019, 60, 146-152.	6.6	43
49	Hyaluronan impairs the barrier integrity of brain microvascular endothelial cells through a CD44-dependent pathway. Journal of Cerebral Blood Flow and Metabolism, 2019, 39, 1759-1775.	4.3	43
50	Blood-brain barrier genomics, proteomics, and new transporter discovery. NeuroRx, 2005, 2, 151-161.	6.0	41
51	Identification and expression profiling of bloodâ€"brain barrier membrane proteins. Journal of Neurochemistry, 2010, 112, 625-635.	3.9	39
52	Activation of RARÎ±, RARÎ³, or RXRÎ± Increases Barrier Tightness in Human Induced Pluripotent Stem Cellâ€Derived Brain Endothelial Cells. Biotechnology Journal, 2018, 13, 1700093.	3.5	39
53	Induced Pluripotent Stem Cell-Derived Brain Endothelial Cells as a Cellular Model to Study Neisseria meningitidis Infection. Frontiers in Microbiology, 2019, 10, 1181.	3.5	39
54	Intrinsic bloodâ€"brain barrier dysfunction contributes to multiple sclerosis pathogenesis. Brain, 2022, 145, 4334-4348.	7.6	37

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55	Analysis of Cancer-Targeting Alkylphosphocholine Analogue Permeability Characteristics Using a Human Induced Pluripotent Stem Cell Bloodâ€"Brain Barrier Model. Molecular Pharmaceutics, 2016, 13, 3341-3349.	4.6	36
56	Biosynthetic polypeptide libraries. Current Opinion in Biotechnology, 1999, 10, 117-122.	6.6	34
57	Wnt signaling mediates acquisition of bloodâ€"brain barrier properties in naÃ¯ve endothelium derived from human pluripotent stem cells. ELife, 2021, 10, .	6.0	31
58	A Yeast Platform for the Production of Single-Chain Antibody-Green Fluorescent Protein Fusions. Applied and Environmental Microbiology, 2006, 72, 7748-7759.	3.1	30
59	Vascular Proteomics and Subtractive Antibody Expression Cloning. Molecular and Cellular Proteomics, 2002, 1, 75-82.	3.8	28
60	A yeast display immunoprecipitation method for efficient isolation and characterization of antigens. Journal of Immunological Methods, 2009, 341, 117-126.	1.4	28
61	Increasing yeast secretion of heterologous proteins by regulating expression rates and postâ€secretory loss. Biotechnology and Bioengineering, 2008, 101, 1264-1275.	3.3	27
62	Antibody library screens using detergent-solubilized mammalian cell lysates as antigen sources. Protein Engineering, Design and Selection, 2010, 23, 567-577.	2.1	26
63	Directed Evolution of Brain-Derived Neurotrophic Factor for Improved Folding and Expression in Saccharomyces cerevisiae. Applied and Environmental Microbiology, 2014, 80, 5732-5742.	3.1	26
64	Directed Differentiation of Human Pluripotent Stem Cells to Podocytes under Defined Conditions. Scientific Reports, 2019, 9, 2765.	3.3	25
65	Cryopreservation of Brain Endothelial Cells Derived from Human Induced Pluripotent Stem Cells Is Enhanced by Rho-Associated Coiled Coil-Containing Kinase Inhibition. Tissue Engineering - Part C: Methods, 2016, 22, 1085-1094.	2.1	24
66	Directed Evolution of Protein Thermal Stability Using Yeast Surface Display. Methods in Molecular Biology, 2017, 1575, 45-65.	0.9	24
67	Transthyretin Mimetics as Antiâ€Î²â€Amyloid Agents: Aâ€‰Comparison of Peptide and Protein Approaches. ChemMedChem, 2018, 13, 968-979.	3.2	23
68	Identifying blood-brain-barrier selective single-chain antibody fragments. Biotechnology Journal, 2014, 9, 664-674.	3.5	22
69	The Ro52/SS-A autoantigen has elevated expression at the brain microvasculature. NeuroReport, 2003, 14, 1861-1865.	1.2	21
70	Engineering an Anti-Transferrin Receptor ScFv for pH-Sensitive Binding Leads to Increased Intracellular Accumulation. PLoS ONE, 2015, 10, e0145820.	2.5	21
71	Enhanced Secretion of Heterologous Proteins from Yeast by Overexpression of Ribosomal Subunit RPP0. Biotechnology Progress, 2008, 24, 748-756.	2.6	19
72	In vitro models of the blood-brain barrier: building in physiological complexity. Current Opinion in Chemical Engineering, 2020, 30, 42-52.	7.8	19

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73	Antibody affinity maturation using yeast display with detergent-solubilized membrane proteins as antigen sources. Protein Engineering, Design and Selection, 2013, 26, 101-112.	2.1	18
74	Advances in microfluidic platforms for analyzing and regulating human pluripotent stem cells. Current Opinion in Genetics and Development, 2015, 34, 54-60.	3.3	18
75	An Evolved Mxe GyrA Intein for Enhanced Production of Fusion Proteins. ACS Chemical Biology, 2015, 10, 527-538.	3.4	18
76	Yeast display biopanning identifies human antibodies targeting glioblastoma stem-like cells. Scientific Reports, 2017, 7, 15840.	3.3	18
77	Streptococcus agalactiae disrupts P-glycoprotein function in brain endothelial cells. Fluids and Barriers of the CNS, 2019, 16, 26.	5.0	18
78	Facile Chemical Functionalization of Proteins through Intein-Linked Yeast Display. Bioconjugate Chemistry, 2013, 24, 1634-1644.	3.6	17
79	Identification of variable lymphocyte receptors that can target therapeutics to pathologically exposed brain extracellular matrix. Science Advances, 2019, 5, eaau4245.	10.3	17
80	Antibody screening using a human iPSCâ€based bloodâ€brain barrier model identifies antibodies that accumulate in the CNS. FASEB Journal, 2020, 34, 12549-12564.	0.5	17
81	Comparative evaluation of isogenic mesodermal and ectomesodermal chondrocytes from human iPSCs for cartilage regeneration. Science Advances, 2021, 7, .	10.3	17
82	Combinatorial Approaches for the Identification of Brain Drug Delivery Targets. Current Pharmaceutical Design, 2014, 20, 1564-1576.	1.9	17
83	Integrative analysis of the human brain mural cell transcriptome. Journal of Cerebral Blood Flow and Metabolism, 2021, 41, 3052-3068.	4.3	15
84	Multiplex expression cloning of blood-brain barrier membrane proteins. Proteomics, 2009, 9, 1099-1108.	2.2	14
85	Differentiation of human pluripotent stem cells to brain microvascular endothelial cell-like cells suitable to study immune cell interactions. STAR Protocols, 2021, 2, 100563.	1.2	14
86	An enhanced approach for engineering thermally stable proteins using yeast display. Protein Engineering, Design and Selection, 2012, 25, 625-630.	2.1	13
87	Liquid crystal droplet-based amplification of microvesicles that are shed by mammalian cells. Analyst, The, 2014, 139, 2386-2396.	3.5	13
88	Past and Current Perspectives in Modeling Bacteria and Bloodâ€“Brain Barrier Interactions. Frontiers in Microbiology, 2019, 10, 1336.	3.5	13
89	Site-Specific Antibody Functionalization Using Tetrazineâ€“Styrene Cycloaddition. Bioconjugate Chemistry, 2018, 29, 1605-1613.	3.6	12
90	Coupling brain perfusion screens and next generation sequencing to identify bloodâ€“brain barrier binding antibodies. AIChE Journal, 2018, 64, 4229-4236.	3.6	12

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91	Yeast Display-Based Antibody Affinity Maturation Using Detergent-Solubilized Cell Lysates. Methods in Molecular Biology, 2015, 1319, 65-78.	0.9	11
92	Sonic Hedgehog Signaling in Cranial Neural Crest Cells Regulates Microvascular Morphogenesis in Facial Development. Frontiers in Cell and Developmental Biology, 2020, 8, 590539.	3.7	11
93	Antibody-Targeted Liposomes for Enhanced Targeting of the Blood-Brain Barrier. Pharmaceutical Research, 2022, 39, 1523-1534.	3.5	8
94	Creation and evaluation of a singleâ€chain antibody tetramer that targets brain endothelial cells. AIChE Journal, 2014, 60, 1245-1252.	3.6	7
95	Proâ€region engineering for improved yeast display and secretion of brain derived neurotrophic factor. Biotechnology Journal, 2016, 11, 425-436.	3.5	6
96	The variable lymphocyte receptor as an antibody alternative. Current Opinion in Biotechnology, 2018, 52, 74-79.	6.6	6
97	Differentiation of Brain Pericyteâ€Like Cells from Human Pluripotent Stem Cellâ^'Derived Neural Crest. Current Protocols, 2021, 1, e21.	2.9	5
98	Identification of lamprey variable lymphocyte receptors that target the brain vasculature. Scientific Reports, 2022, 12, 6044.	3.3	5
99	A yeast display immunoprecipitation screen for targeted discovery of antibodies against membrane protein complexes. Protein Engineering, Design and Selection, 2019, 32, 219-230.	2.1	3
100	Introducing glycophage arrays: Facile production, purification and patterning of glycophages. Biotechnology Journal, 2015, 10, 20-21.	3.5	2
101	Impacts of the â^'1 Amino Acid on Yeast Production of Proteinâ€Intein Fusions. Biotechnology Progress, 2019, 35, e2736.	2.6	2
102	Integrating inÂvitro disease models of the neurovascular unit into discovery and development of neurotherapeutics. Current Opinion in Biomedical Engineering, 2021, 20, 100341.	3.4	2
103	Identification of Brain ECM Binding Variable Lymphocyte Receptors Using Yeast Surface Display. Methods in Molecular Biology, 2022, 2491, 235-248.	0.9	2
104	Bloodâ€"Brain Barrier. , 2007, , 1124-1139.		1
105	Site-Directed Modification of Yeast-Produced Proteins Using Expressed Protein Ligation. Methods in Molecular Biology, 2020, 2133, 221-233.	0.9	0
106	Blood-brain barrier genomics, proteomics, and new transporter discovery. Neurotherapeutics, 2005, 2, 151-161.	4.4	0