

C Ronald Kahn

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555
papers

90,334
citations

151
h-index

289
g-index

586
ext. papers

99,506
ext. citations

14.3
avg, IF

7.99
L-index

#	Paper	IF	Citations
555	Insulin signalling and the regulation of glucose and lipid metabolism. <i>Nature</i> , 2001 , 414, 799-806	50.4	3723
554	Identification and importance of brown adipose tissue in adult humans. <i>New England Journal of Medicine</i> , 2009 , 360, 1509-17	59.2	3046
553	Critical nodes in signalling pathways: insights into insulin action. <i>Nature Reviews Molecular Cell Biology</i> , 2006 , 7, 85-96	48.7	1950
552	Role of brain insulin receptor in control of body weight and reproduction. <i>Science</i> , 2000 , 289, 2122-5	33.3	1729
551	Coordinated reduction of genes of oxidative metabolism in humans with insulin resistance and diabetes: Potential role of PGC1 and NRF1. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2003 , 100, 8466-71	11.5	1595
550	Control of hepatic gluconeogenesis through the transcriptional coactivator PGC-1. <i>Nature</i> , 2001 , 413, 131-8	50.4	1480
549	Structure of the insulin receptor substrate IRS-1 defines a unique signal transduction protein. <i>Nature</i> , 1991 , 352, 73-7	50.4	1377
548	Suppression of aging in mice by the hormone Klotho. <i>Science</i> , 2005 , 309, 1829-33	33.3	1344
547	SIRT3 regulates mitochondrial fatty-acid oxidation by reversible enzyme deacetylation. <i>Nature</i> , 2010 , 464, 121-5	50.4	1143
546	Antioxidants prevent health-promoting effects of physical exercise in humans. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2009 , 106, 8665-70	11.5	1108
545	Alternative pathway of insulin signalling in mice with targeted disruption of the IRS-1 gene. <i>Nature</i> , 1994 , 372, 186-90	50.4	1101
544	Extended longevity in mice lacking the insulin receptor in adipose tissue. <i>Science</i> , 2003 , 299, 572-4	33.3	1076
543	Developmental origin of fat: tracking obesity to its source. <i>Cell</i> , 2007 , 131, 242-56	56.2	1052
542	Insulin stimulates the phosphorylation of the 95,000-dalton subunit of its own receptor. <i>Science</i> , 1982 , 215, 185-7	33.3	1037
541	Tissue-specific knockout of the insulin receptor in pancreatic beta cells creates an insulin secretory defect similar to that in type 2 diabetes. <i>Cell</i> , 1999 , 96, 329-39	56.2	983
540	Role of glucose and insulin resistance in development of type 2 diabetes mellitus: results of a 25-year follow-up study. <i>Lancet, The</i> , 1992 , 340, 925-9	40	957
539	A muscle-specific insulin receptor knockout exhibits features of the metabolic syndrome of NIDDM without altering glucose tolerance. <i>Molecular Cell</i> , 1998 , 2, 559-69	17.6	951

538	The syndromes of insulin resistance and acanthosis nigricans. Insulin-receptor disorders in man. <i>New England Journal of Medicine</i> , 1976 , 294, 739-45	59.2	897
537	New role of bone morphogenetic protein 7 in brown adipogenesis and energy expenditure. <i>Nature</i> , 2008 , 454, 1000-4	50.4	824
536	Insulin resistance differentially affects the PI 3-kinase- and MAP kinase-mediated signaling in human muscle. <i>Journal of Clinical Investigation</i> , 2000 , 105, 311-20	15.9	812
535	Banting Lecture. Insulin action, diabetogenes, and the cause of type II diabetes. <i>Diabetes</i> , 1994 , 43, 1066-84	8.4	774
534	Adipose-derived circulating miRNAs regulate gene expression in other tissues. <i>Nature</i> , 2017 , 542, 450-455	50.4	770
533	Slow glucose removal rate and hyperinsulinemia precede the development of type II diabetes in the offspring of diabetic parents. <i>Annals of Internal Medicine</i> , 1990 , 113, 909-15	8	715
532	Insulin receptor signaling in normal and insulin-resistant states. <i>Cold Spring Harbor Perspectives in Biology</i> , 2014 , 6,	10.2	705
531	The changing natural history of nephropathy in type I diabetes. <i>American Journal of Medicine</i> , 1985 , 78, 785-94	2.4	695
530	ErbB2 is essential in the prevention of dilated cardiomyopathy. <i>Nature Medicine</i> , 2002 , 8, 459-65	50.5	690
529	Type 2 diabetes mellitus. <i>Nature Reviews Disease Primers</i> , 2015 , 1, 15019	51.1	651
528	Insulin resistance, insulin insensitivity, and insulin unresponsiveness: a necessary distinction. <i>Metabolism: Clinical and Experimental</i> , 1978 , 27, 1893-902	12.7	641
527	Adipose tissue selective insulin receptor knockout protects against obesity and obesity-related glucose intolerance. <i>Developmental Cell</i> , 2002 , 3, 25-38	10.2	635
526	Insulin stimulates tyrosine phosphorylation of the insulin receptor in a cell-free system. <i>Nature</i> , 1982 , 298, 667-9	50.4	628
525	Phlorizin: a review. <i>Diabetes/Metabolism Research and Reviews</i> , 2005 , 21, 31-8	7.5	625
524	Protein-protein interaction in insulin signaling and the molecular mechanisms of insulin resistance. <i>Journal of Clinical Investigation</i> , 1999 , 103, 931-43	15.9	616
523	Insulin rapidly stimulates tyrosine phosphorylation of a Mr-185,000 protein in intact cells. <i>Nature</i> , 1985 , 318, 183-6	50.4	598
522	Insulin action and the insulin signaling network. <i>Endocrine Reviews</i> , 1995 , 16, 117-42	27.2	592
521	SIRT3 deficiency and mitochondrial protein hyperacetylation accelerate the development of the metabolic syndrome. <i>Molecular Cell</i> , 2011 , 44, 177-90	17.6	568

520	From mice to men: insights into the insulin resistance syndromes. <i>Annual Review of Physiology</i> , 2006 , 68, 123-58	23.1	552
519	Magnitude and determinants of coronary artery disease in juvenile-onset, insulin-dependent diabetes mellitus. <i>American Journal of Cardiology</i> , 1987 , 59, 750-5	3	552
518	Targeted disruption of the glucose transporter 4 selectively in muscle causes insulin resistance and glucose intolerance. <i>Nature Medicine</i> , 2000 , 6, 924-8	50.5	546
517	Diabetes primes neutrophils to undergo NETosis, which impairs wound healing. <i>Nature Medicine</i> , 2015 , 21, 815-9	50.5	540
516	Membrane receptors for hormones and neurotransmitters. <i>Journal of Cell Biology</i> , 1976 , 70, 261-86	7.3	529
515	Suppressor of cytokine signaling 1 (SOCS-1) and SOCS-3 cause insulin resistance through inhibition of tyrosine phosphorylation of insulin receptor substrate proteins by discrete mechanisms. <i>Molecular and Cellular Biology</i> , 2004 , 24, 5434-46	4.8	517
514	A guide to analysis of mouse energy metabolism. <i>Nature Methods</i> , 2011 , 9, 57-63	21.6	516
513	Beneficial effects of subcutaneous fat transplantation on metabolism. <i>Cell Metabolism</i> , 2008 , 7, 410-20	24.6	514
512	Insulin action in AgRP-expressing neurons is required for suppression of hepatic glucose production. <i>Cell Metabolism</i> , 2007 , 5, 438-49	24.6	501
511	Role for neuronal insulin resistance in neurodegenerative diseases. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2004 , 101, 3100-5	11.5	499
510	Regulation of myocardial contractility and cell size by distinct PI3K-PTEN signaling pathways. <i>Cell</i> , 2002 , 110, 737-49	56.2	497
509	Development of a novel polygenic model of NIDDM in mice heterozygous for IR and IRS-1 null alleles. <i>Cell</i> , 1997 , 88, 561-72	56.2	477
508	Obesity associated with a mutation in a genetic regulator of adipocyte differentiation. <i>New England Journal of Medicine</i> , 1998 , 339, 953-9	59.2	467
507	Evidence for a role of developmental genes in the origin of obesity and body fat distribution. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2006 , 103, 6676-81	11.5	462
506	Cellular bioenergetics as a target for obesity therapy. <i>Nature Reviews Drug Discovery</i> , 2010 , 9, 465-82	64.1	421
505	Loss of ARNT/HIF1beta mediates altered gene expression and pancreatic-islet dysfunction in human type 2 diabetes. <i>Cell</i> , 2005 , 122, 337-49	56.2	408
504	Antibodies that impair insulin receptor binding in an unusual diabetic syndrome with severe insulin resistance. <i>Science</i> , 1975 , 190, 63-5	33.3	391
503	Bidirectional modulation of insulin action by amino acids. <i>Journal of Clinical Investigation</i> , 1998 , 101, 1511-29	35.9	391

502	Tumstatin, an endothelial cell-specific inhibitor of protein synthesis. <i>Science</i> , 2002 , 295, 140-3	33.3	387
501	SIRT2 regulates adipocyte differentiation through FoxO1 acetylation/deacetylation. <i>Cell Metabolism</i> , 2007 , 6, 105-14	24.6	374
500	Tissue-specific insulin resistance in mice with mutations in the insulin receptor, IRS-1, and IRS-2. <i>Journal of Clinical Investigation</i> , 2000 , 105, 199-205	15.9	365
499	The molecular mechanism of insulin action. <i>Annual Review of Medicine</i> , 1985 , 36, 429-51	17.4	364
498	Dilated cardiomyopathy and atrioventricular conduction blocks induced by heart-specific inactivation of mitochondrial DNA gene expression. <i>Nature Genetics</i> , 1999 , 21, 133-7	36.3	351
497	Insulin action in brain regulates systemic metabolism and brain function. <i>Diabetes</i> , 2014 , 63, 2232-43	0.9	349
496	Epidemiologic approach to the etiology of type I diabetes mellitus and its complications. <i>New England Journal of Medicine</i> , 1987 , 317, 1390-8	59.2	346
495	Mutation of the insulin receptor at tyrosine 960 inhibits signal transmission but does not affect its tyrosine kinase activity. <i>Cell</i> , 1988 , 54, 641-9	56.2	346
494	Hepatic insulin resistance is sufficient to produce dyslipidemia and susceptibility to atherosclerosis. <i>Cell Metabolism</i> , 2008 , 7, 125-34	24.6	337
493	Direct demonstration that receptor crosslinking or aggregation is important in insulin action. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 1978 , 75, 4209-13	11.5	337
492	Angiotensin II inhibits insulin signaling in aortic smooth muscle cells at multiple levels. A potential role for serine phosphorylation in insulin/angiotensin II crosstalk. <i>Journal of Clinical Investigation</i> , 1997 , 100, 2158-69	15.9	337
491	Sirtuin-3 (Sirt3) regulates skeletal muscle metabolism and insulin signaling via altered mitochondrial oxidation and reactive oxygen species production. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011 , 108, 14608-13	11.5	335
490	Cross-talk between the insulin and angiotensin signaling systems. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 1996 , 93, 12490-5	11.5	334
489	Label-free quantitative proteomics of the lysine acetylome in mitochondria identifies substrates of SIRT3 in metabolic pathways. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013 , 110, 6601-6	11.5	332
488	Targeted deletion of AIF decreases mitochondrial oxidative phosphorylation and protects from obesity and diabetes. <i>Cell</i> , 2007 , 131, 476-91	56.2	332
487	Platform-independent and label-free quantitation of proteomic data using MS1 extracted ion chromatograms in skyline: application to protein acetylation and phosphorylation. <i>Molecular and Cellular Proteomics</i> , 2012 , 11, 202-14	7.6	328
486	Interactions between Gut Microbiota, Host Genetics and Diet Modulate the Predisposition to Obesity and Metabolic Syndrome. <i>Cell Metabolism</i> , 2015 , 22, 516-530	24.6	325
485	Muscle-specific PPARgamma-deficient mice develop increased adiposity and insulin resistance but respond to thiazolidinediones. <i>Journal of Clinical Investigation</i> , 2003 , 112, 608-18	15.9	321

484	Receptors and growth-promoting effects of insulin and insulinlike growth factors on cells from bovine retinal capillaries and aorta. <i>Journal of Clinical Investigation</i> , 1985 , 75, 1028-36	15.9	320
483	Fluctuations in the affinity and concentration of insulin receptors on circulating monocytes of obese patients: effects of starvation, refeeding, and dieting. <i>Journal of Clinical Investigation</i> , 1976 , 58, 1123-35	15.9	317
482	beta-cell-specific deletion of the Igf1 receptor leads to hyperinsulinemia and glucose intolerance but does not alter beta-cell mass. <i>Nature Genetics</i> , 2002 , 31, 111-5	36.3	312
481	Impaired insulin/IGF1 signaling extends life span by promoting mitochondrial L-proline catabolism to induce a transient ROS signal. <i>Cell Metabolism</i> , 2012 , 15, 451-65	24.6	311
480	Insulin signaling to the glomerular podocyte is critical for normal kidney function. <i>Cell Metabolism</i> , 2010 , 12, 329-340	24.6	310
479	Central role of suppressors of cytokine signaling proteins in hepatic steatosis, insulin resistance, and the metabolic syndrome in the mouse. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2004 , 101, 10422-7	11.5	310
478	Role of Dietary Fructose and Hepatic De Novo Lipogenesis in Fatty Liver Disease. <i>Digestive Diseases and Sciences</i> , 2016 , 61, 1282-93	4	306
477	Differences in risk of insulin-dependent diabetes in offspring of diabetic mothers and diabetic fathers. <i>New England Journal of Medicine</i> , 1984 , 311, 149-52	59.2	306
476	Tyrosine-specific protein kinase activity is associated with the purified insulin receptor. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 1983 , 80, 2137-41	11.5	301
475	The insulin receptor and the molecular mechanism of insulin action. <i>Journal of Clinical Investigation</i> , 1988 , 82, 1151-6	15.9	300
474	Direct demonstration of separate receptors for growth and metabolic activities of insulin and multiplication-stimulating activity (an insulinlike growth factor) using antibodies to the insulin receptor. <i>Journal of Clinical Investigation</i> , 1980 , 66, 130-40	15.9	281
473	Insulin signaling coordinately regulates cardiac size, metabolism, and contractile protein isoform expression. <i>Journal of Clinical Investigation</i> , 2002 , 109, 629-639	15.9	277
472	Endocrine regulation of ageing. <i>Nature Reviews Molecular Cell Biology</i> , 2007 , 8, 681-91	48.7	275
471	Fatty liver is associated with reduced SIRT3 activity and mitochondrial protein hyperacetylation. <i>Biochemical Journal</i> , 2011 , 433, 505-14	3.8	273
470	Sex and depot differences in adipocyte insulin sensitivity and glucose metabolism. <i>Diabetes</i> , 2009 , 58, 803-12	0.9	263
469	Insulin regulates liver metabolism in vivo in the absence of hepatic Akt and Foxo1. <i>Nature Medicine</i> , 2012 , 18, 388-95	50.5	260
468	Astrocytic Insulin Signaling Couples Brain Glucose Uptake with Nutrient Availability. <i>Cell</i> , 2016 , 166, 867-880	38.0	256
467	Hypoglycaemia, liver necrosis and perinatal death in mice lacking all isoforms of phosphoinositide 3-kinase p85 alpha. <i>Nature Genetics</i> , 2000 , 26, 379-82	36.3	251

466	Insulin-Receptor Interaction in the Obese-Hyperglycemic Mouse. <i>Journal of Biological Chemistry</i> , 1973 , 248, 244-250	5.4	250
465	Lessons on conditional gene targeting in mouse adipose tissue. <i>Diabetes</i> , 2013 , 62, 864-74	0.9	245
464	Mir193b-365 is essential for brown fat differentiation. <i>Nature Cell Biology</i> , 2011 , 13, 958-65	23.4	244
463	Redistribution of substrates to adipose tissue promotes obesity in mice with selective insulin resistance in muscle. <i>Journal of Clinical Investigation</i> , 2000 , 105, 1791-7	15.9	243
462	Modulation of insulin receptor, insulin receptor substrate-1, and phosphatidylinositol 3-kinase in liver and muscle of dexamethasone-treated rats. <i>Journal of Clinical Investigation</i> , 1993 , 92, 2065-72	15.9	242
461	The role of endothelial insulin signaling in the regulation of vascular tone and insulin resistance. <i>Journal of Clinical Investigation</i> , 2003 , 111, 1373-80	15.9	242
460	Brown fat as a therapy for obesity and diabetes. <i>Current Opinion in Endocrinology, Diabetes and Obesity</i> , 2010 , 17, 143-9	4	241
459	The emerging genetic architecture of type 2 diabetes. <i>Cell Metabolism</i> , 2008 , 8, 186-200	24.6	239
458	Role of hepatic STAT3 in brain-insulin action on hepatic glucose production. <i>Cell Metabolism</i> , 2006 , 3, 267-75	24.6	236
457	The cellular fate of glucose and its relevance in type 2 diabetes. <i>Endocrine Reviews</i> , 2004 , 25, 807-30	27.2	235
456	Insulin Interactions with Liver Plasma Membranes. <i>Journal of Biological Chemistry</i> , 1972 , 247, 3953-3961	5.4	234
455	Cold but not sympathomimetics activates human brown adipose tissue in vivo. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012 , 109, 10001-5	11.5	231
454	Ectopic brown adipose tissue in muscle provides a mechanism for differences in risk of metabolic syndrome in mice. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2007 , 104, 2366-71	11.5	230
453	Divergent regulation of hepatic glucose and lipid metabolism by phosphoinositide 3-kinase via Akt and PKCλ/zeta. <i>Cell Metabolism</i> , 2006 , 3, 343-53	24.6	230
452	Molecular balance between the regulatory and catalytic subunits of phosphoinositide 3-kinase regulates cell signaling and survival. <i>Molecular and Cellular Biology</i> , 2002 , 22, 965-77	4.8	230
451	Brain glucagon-like peptide-1 increases insulin secretion and muscle insulin resistance to favor hepatic glycogen storage. <i>Journal of Clinical Investigation</i> , 2005 , 115, 3554-63	15.9	230
450	Tissue-specific insulin signaling, metabolic syndrome, and cardiovascular disease. <i>Arteriosclerosis, Thrombosis, and Vascular Biology</i> , 2012 , 32, 2052-9	9.4	228
449	Transplantation of adipose tissue and stem cells: role in metabolism and disease. <i>Nature Reviews Endocrinology</i> , 2010 , 6, 195-213	15.2	227

448	Loss of insulin signaling in vascular endothelial cells accelerates atherosclerosis in apolipoprotein E null mice. <i>Cell Metabolism</i> , 2010 , 11, 379-89	24.6	222
447	Dissection of the insulin signaling pathway via quantitative phosphoproteomics. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2008 , 105, 2451-6	11.5	222
446	Quantitative Aspects of the Insulin-Receptor Interaction in Liver Plasma Membranes. <i>Journal of Biological Chemistry</i> , 1974 , 249, 2249-2257	5.4	222
445	Insulin resistance in brain alters dopamine turnover and causes behavioral disorders. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015 , 112, 3463-8	11.5	219
444	Total insulin and IGF-I resistance in pancreatic beta cells causes overt diabetes. <i>Nature Genetics</i> , 2006 , 38, 583-8	36.3	217
443	Altered function of insulin receptor substrate-1-deficient mouse islets and cultured beta-cell lines. <i>Journal of Clinical Investigation</i> , 1999 , 104, R69-75	15.9	215
442	Genetic determinants of energy expenditure and insulin resistance in diet-induced obesity in mice. <i>Diabetes</i> , 2004 , 53, 3274-85	0.9	213
441	PDX-1 haploinsufficiency limits the compensatory islet hyperplasia that occurs in response to insulin resistance. <i>Journal of Clinical Investigation</i> , 2004 , 114, 828-36	15.9	212
440	Increased insulin sensitivity in mice lacking p85beta subunit of phosphoinositide 3-kinase. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2002 , 99, 419-24	11.5	209
439	Intrinsic differences in adipocyte precursor cells from different white fat depots. <i>Diabetes</i> , 2012 , 61, 1691-9	0.9	208
438	Hepatic insulin resistance directly promotes formation of cholesterol gallstones. <i>Nature Medicine</i> , 2008 , 14, 778-82	50.5	208
437	Complementary roles of IRS-1 and IRS-2 in the hepatic regulation of metabolism. <i>Journal of Clinical Investigation</i> , 2005 , 115, 718-27	15.9	207
436	Alterations in insulin binding induced by changes in vivo in the levels of glucocorticoids and growth hormone. <i>Endocrinology</i> , 1978 , 103, 1054-66	4.8	205
435	Extracellular miRNAs: From Biomarkers to Mediators of Physiology and Disease. <i>Cell Metabolism</i> , 2019 , 30, 656-673	24.6	203
434	Central insulin action regulates peripheral glucose and fat metabolism in mice. <i>Journal of Clinical Investigation</i> , 2008 , 118, 2132-47	15.9	202
433	Muscle-specific Pten deletion protects against insulin resistance and diabetes. <i>Molecular and Cellular Biology</i> , 2005 , 25, 1135-45	4.8	197
432	Mouse models of insulin resistance. <i>Physiological Reviews</i> , 2004 , 84, 623-47	47.9	194
431	Dietary leucine--an environmental modifier of insulin resistance acting on multiple levels of metabolism. <i>PLoS ONE</i> , 2011 , 6, e21187	3.7	192

430	Insulin receptor knockout mice. <i>Annual Review of Physiology</i> , 2003 , 65, 313-32	23.1	192
429	Effects of diet and genetic background on sterol regulatory element-binding protein-1c, stearoyl-CoA desaturase 1, and the development of the metabolic syndrome. <i>Diabetes</i> , 2005 , 54, 1314-23	6.9	191
428	Role of microRNA processing in adipose tissue in stress defense and longevity. <i>Cell Metabolism</i> , 2012 , 16, 336-47	24.6	190
427	Insulin receptor functionally enhances multistage tumor progression and conveys intrinsic resistance to IGF-1R targeted therapy. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010 , 107, 10791-8	11.5	188
426	Effects of autoantibodies to the insulin receptor on isolated adipocytes. Studies of insulin binding and insulin action. <i>Journal of Clinical Investigation</i> , 1977 , 60, 1094-106	15.9	186
425	Insulin receptor deficiency in genetic and acquired obesity. <i>Journal of Clinical Investigation</i> , 1975 , 56, 769-80	15.9	184
424	Sirt3 regulates metabolic flexibility of skeletal muscle through reversible enzymatic deacetylation. <i>Diabetes</i> , 2013 , 62, 3404-17	0.9	182
423	beta(3)-adrenergic stimulation differentially inhibits insulin signaling and decreases insulin-induced glucose uptake in brown adipocytes. <i>Journal of Biological Chemistry</i> , 1999 , 274, 34795-802	5.4	180
422	Prediction of preadipocyte differentiation by gene expression reveals role of insulin receptor substrates and necdin. <i>Nature Cell Biology</i> , 2005 , 7, 601-11	23.4	179
421	Genetics of non-insulin-dependent (type-II) diabetes mellitus. <i>Annual Review of Medicine</i> , 1996 , 47, 509-31	17.4	174
420	4PS/insulin receptor substrate (IRS)-2 is the alternative substrate of the insulin receptor in IRS-1-deficient mice. <i>Journal of Biological Chemistry</i> , 1995 , 270, 24670-3	5.4	173
419	Skeletal muscle-selective knockout of LKB1 increases insulin sensitivity, improves glucose homeostasis, and decreases TRB3. <i>Molecular and Cellular Biology</i> , 2006 , 26, 8217-27	4.8	172
418	Reduced expression of the murine p85 β subunit of phosphoinositide 3-kinase improves insulin signaling and ameliorates diabetes. <i>Journal of Clinical Investigation</i> , 2002 , 109, 141-149	15.9	172
417	Tissue-specific ablation of the GLUT4 glucose transporter or the insulin receptor challenges assumptions about insulin action and glucose homeostasis. <i>Journal of Biological Chemistry</i> , 2003 , 278, 33609-12	5.4	169
416	Altered adipose tissue and adipocyte function in the pathogenesis of metabolic syndrome. <i>Journal of Clinical Investigation</i> , 2019 , 129, 3990-4000	15.9	169
415	Positive and negative roles of p85 alpha and p85 beta regulatory subunits of phosphoinositide 3-kinase in insulin signaling. <i>Journal of Biological Chemistry</i> , 2003 , 278, 48453-66	5.4	164
414	Interplay between FGF21 and insulin action in the liver regulates metabolism. <i>Journal of Clinical Investigation</i> , 2014 , 124, 515-27	15.9	163
413	Akt signaling mediates postnatal heart growth in response to insulin and nutritional status. <i>Journal of Biological Chemistry</i> , 2002 , 277, 37670-7	5.4	163

4 ¹²	Brown adipose tissue-specific insulin receptor knockout shows diabetic phenotype without insulin resistance. <i>Journal of Clinical Investigation</i> , 2001 , 108, 1205-13	15.9	163
4 ¹¹	Receptors, antireceptor antibodies and mechanisms of insulin resistance. <i>New England Journal of Medicine</i> , 1979 , 300, 413-9	59.2	161
4 ¹⁰	Exercise modulates postreceptor insulin signaling and glucose transport in muscle-specific insulin receptor knockout mice. <i>Journal of Clinical Investigation</i> , 1999 , 104, 1257-64	15.9	160
4 ⁰⁹	Ectopic production of chorionic gonadotropin and its subunits by islet-cell tumors. A specific marker for malignancy. <i>New England Journal of Medicine</i> , 1977 , 297, 565-9	59.2	159
4 ⁰⁸	Hypoxia-inducible factor-1alpha regulates beta cell function in mouse and human islets. <i>Journal of Clinical Investigation</i> , 2010 , 120, 2171-83	15.9	154
4 ⁰⁷	Insulin signaling is required for insulin's direct and indirect action on hepatic glucose production. <i>Journal of Clinical Investigation</i> , 2003 , 111, 463-8	15.9	153
4 ⁰⁶	Excessive cardiac insulin signaling exacerbates systolic dysfunction induced by pressure overload in rodents. <i>Journal of Clinical Investigation</i> , 2010 , 120, 1506-14	15.9	153
4 ⁰⁵	Adipose-specific deletion of TFAM increases mitochondrial oxidation and protects mice against obesity and insulin resistance. <i>Cell Metabolism</i> , 2012 , 16, 765-76	24.6	151
4 ⁰⁴	Deficiency of PDK1 in cardiac muscle results in heart failure and increased sensitivity to hypoxia. <i>EMBO Journal</i> , 2003 , 22, 4666-76	13	151
4 ⁰³	The insulin receptor in vertebrates is functionally more conserved during evolution than insulin itself. <i>Endocrinology</i> , 1979 , 104, 1393-402	4.8	149
4 ⁰²	Retinaldehyde dehydrogenase 1 regulates a thermogenic program in white adipose tissue. <i>Nature Medicine</i> , 2012 , 18, 918-25	50.5	148
4 ⁰¹	Loss of skeletal muscle HIF-1alpha results in altered exercise endurance. <i>PLoS Biology</i> , 2004 , 2, e288	9.7	148
4 ⁰⁰	Knockout of insulin and IGF-1 receptors on vascular endothelial cells protects against retinal neovascularization. <i>Journal of Clinical Investigation</i> , 2003 , 111, 1835-1842	15.9	147
399	In vivo and in vitro studies of vanadate in human and rodent diabetes mellitus. <i>Molecular and Cellular Biochemistry</i> , 1995 , 153, 217-31	4.2	146
398	Site and mechanism of leptin action in a rodent form of congenital lipodystrophy. <i>Journal of Clinical Investigation</i> , 2004 , 113, 414-424	15.9	146
397	Reduced beta-cell mass and altered glucose sensing impair insulin-secretory function in betaIRKO mice. <i>American Journal of Physiology - Endocrinology and Metabolism</i> , 2004 , 286, E41-9	6	144
396	Essential role of insulin receptor substrate 1 in differentiation of brown adipocytes. <i>Molecular and Cellular Biology</i> , 2001 , 21, 319-29	4.8	144
395	Insulin signaling coordinately regulates cardiac size, metabolism, and contractile protein isoform expression. <i>Journal of Clinical Investigation</i> , 2002 , 109, 629-39	15.9	143

394	Divergent effects of glucose and fructose on hepatic lipogenesis and insulin signaling. <i>Journal of Clinical Investigation</i> , 2017 , 127, 4059-4074	15.9	143
393	A regulatory subunit of phosphoinositide 3-kinase increases the nuclear accumulation of X-box-binding protein-1 to modulate the unfolded protein response. <i>Nature Medicine</i> , 2010 , 16, 438-45	50.5	141
392	Differential roles of insulin receptor substrates in brown adipocyte differentiation. <i>Molecular and Cellular Biology</i> , 2004 , 24, 1918-29	4.8	141
391	Glucose toxicity and the development of diabetes in mice with muscle-specific inactivation of GLUT4. <i>Journal of Clinical Investigation</i> , 2001 , 108, 153-60	15.9	141
390	Regulation of insulin receptors and insulin responsiveness in 3T3-L1 fatty fibroblasts. <i>Endocrinology</i> , 1979 , 104, 1383-92	4.8	139
389	Metabolic effects of vanadyl sulfate in humans with non-insulin-dependent diabetes mellitus: in vivo and in vitro studies. <i>Metabolism: Clinical and Experimental</i> , 2000 , 49, 400-10	12.7	137
388	Essential role of insulin and insulin-like growth factor 1 receptor signaling in cardiac development and function. <i>Molecular and Cellular Biology</i> , 2007 , 27, 1649-64	4.8	133
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