

# Matthew G Vander Heiden

## List of Publications by Year in descending order

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Version: 2024-02-01

136  
papers

54,717  
citations

6613

79  
h-index

11052

137  
g-index

158  
all docs

158  
docs citations

158  
times ranked

61242  
citing authors

#	ARTICLE	IF	CITATIONS
1	Interactions with stromal cells promote a more oxidized cancer cell redox state in pancreatic tumors. <i>Science Advances</i> , 2022, 8, eabg6383.	10.3	20
2	Ketogenic HMG-CoA lyase and its product $\beta$ -hydroxybutyrate promote pancreatic cancer progression. <i>EMBO Journal</i> , 2022, 41, e110466.	7.8	24
3	Inhibiting GLUT1 in cancer. <i>Cell Chemical Biology</i> , 2022, 29, 353-355.	5.2	1
4	Regulation of chromatin accessibility by the histone chaperone CAF-1 sustains lineage fidelity. <i>Nature Communications</i> , 2022, 13, 2350.	12.8	8
5	Pyruvate Kinase M1 Suppresses Development and Progression of Prostate Adenocarcinoma. <i>Cancer Research</i> , 2022, 82, 2403-2416.	0.9	10
6	Cancer cells depend on environmental lipids for proliferation when electron acceptors are limited. <i>Nature Metabolism</i> , 2022, 4, 711-723.	11.9	29
7	The Impact of PIK3R1 Mutations and Insulin-PI3K Glycolytic Pathway Regulation in Prostate Cancer. <i>Clinical Cancer Research</i> , 2022, 28, 3603-3617.	7.0	7
8	Netrin G1 Promotes Pancreatic Tumorigenesis through Cancer-Associated Fibroblast-Driven Nutritional Support and Immunosuppression. <i>Cancer Discovery</i> , 2021, 11, 446-479.	9.4	97
9	Arginase Therapy Combines Effectively with Immune Checkpoint Blockade or Agonist Anti-OX40 Immunotherapy to Control Tumor Growth. <i>Cancer Immunology Research</i> , 2021, 9, 415-429.	3.4	11
10	Increased demand for NAD <sup>+</sup> relative to ATP drives aerobic glycolysis. <i>Molecular Cell</i> , 2021, 81, 691-707.e6.	9.7	232
11	Association of Prediagnostic Blood Metabolomics with Prostate Cancer Defined by ERG or PTEN Molecular Subtypes. <i>Cancer Epidemiology Biomarkers and Prevention</i> , 2021, 30, 1000-1008.	2.5	2
12	The metabolic landscape of RAS-driven cancers from biology to therapy. <i>Nature Cancer</i> , 2021, 2, 271-283.	13.2	139
13	Fatty acid synthesis is required for breast cancer brain metastasis. <i>Nature Cancer</i> , 2021, 2, 414-428.	13.2	147
14	Cell-programmed nutrient partitioning in the tumour microenvironment. <i>Nature</i> , 2021, 593, 282-288.	27.8	491
15	Pancreatic $\beta$ cells put the glutamine engine in reverse. <i>Cell Metabolism</i> , 2021, 33, 702-704.	16.2	3
16	Differential Substrate Use in EGF- and Oncogenic KRAS-Stimulated Human Mammary Epithelial Cells. <i>FEBS Journal</i> , 2021, 288, 5629-5649.	4.7	4
17	Suppression of pancreatic ductal adenocarcinoma growth and metastasis by fibrillar collagens produced selectively by tumor cells. <i>Nature Communications</i> , 2021, 12, 2328.	12.8	45
18	Mitochondrial NADPH is a pro at Pro synthesis. <i>Nature Metabolism</i> , 2021, 3, 453-455.	11.9	2

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19	Metabolomics in cancer research and emerging applications in clinical oncology. <i>Ca-A Cancer Journal for Clinicians</i> , 2021, 71, 333-358.	329.8	267
20	The CAT-SIR is out of the bag: tumors prefer host rather than dietary nutrients. <i>BMC Biology</i> , 2021, 19, 92.	3.8	1
21	Hepcidin sequesters iron to sustain nucleotide metabolism and mitochondrial function in colorectal cancer epithelial cells. <i>Nature Metabolism</i> , 2021, 3, 969-982.	11.9	58
22	PKM1 Exerts Critical Roles in Cardiac Remodeling Under Pressure Overload in the Heart. <i>Circulation</i> , 2021, 144, 712-727.	1.6	23
23	Patient-Derived Xenografts to Study Cancer Metabolism: When Does X Mark the Spot?. <i>Cancer Research</i> , 2021, 81, 4399-4401.	0.9	0
24	Gene Expression Pathways in Prostate Tissue Associated with Vigorous Physical Activity in Prostate Cancer. <i>Cancer Epidemiology Biomarkers and Prevention</i> , 2021, 30, 751-756.	2.5	1
25	Low glycaemic diets alter lipid metabolism to influence tumour growth. <i>Nature</i> , 2021, 599, 302-307.	27.8	142
26	Methionine synthase is essential for cancer cell proliferation in physiological folate environments. <i>Nature Metabolism</i> , 2021, 3, 1500-1511.	11.9	26
27	Cancer-associated mutations in human pyruvate kinase M2 impair enzyme activity. <i>FEBS Letters</i> , 2020, 594, 646-664.	2.8	15
28	Metabolism in the Tumor Microenvironment. <i>Annual Review of Cancer Biology</i> , 2020, 4, 17-40.	4.5	61
29	Monitoring and modeling of lymphocytic leukemia cell bioenergetics reveals decreased ATP synthesis during cell division. <i>Nature Communications</i> , 2020, 11, 4983.	12.8	19
30	MFSD7C switches mitochondrial ATP synthesis to thermogenesis in response to heme. <i>Nature Communications</i> , 2020, 11, 4837.	12.8	21
31	Deficiency of malate-aspartate shuttle component SLC25A12 induces pulmonary metastasis. <i>Cancer &amp; Metabolism</i> , 2020, 8, 26.	5.0	11
32	Induction of a Timed Metabolic Collapse to Overcome Cancer Chemoresistance. <i>Cell Metabolism</i> , 2020, 32, 391-403.e6.	16.2	79
33	A metastasis map of human cancer cell lines. <i>Nature</i> , 2020, 588, 331-336.	27.8	214
34	REV1 inhibitor JH-RE-06 enhances tumor cell response to chemotherapy by triggering senescence hallmarks. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020, 117, 28918-28921.	7.1	27
35	Limited Environmental Serine and Glycine Confer Brain Metastasis Sensitivity to PHGDH Inhibition. <i>Cancer Discovery</i> , 2020, 10, 1352-1373.	9.4	145
36	Keap1 mutation renders lung adenocarcinomas dependent on Slc33a1. <i>Nature Cancer</i> , 2020, 1, 589-602.	13.2	44

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37	A Metabolomics Analysis of Adiposity and Advanced Prostate Cancer Risk in the Health Professionals Follow-Up Study. <i>Metabolites</i> , 2020, 10, 99.	2.9	12
38	Emerging Roles for Branched-Chain Amino Acid Metabolism in Cancer. <i>Cancer Cell</i> , 2020, 37, 147-156.	16.8	233
39	Transcriptional activation of macropinocytosis by the Hippo pathway following nutrient limitation. <i>Genes and Development</i> , 2020, 34, 1253-1255.	5.9	2
40	Dissecting cell-type-specific metabolism in pancreatic ductal adenocarcinoma. <i>ELife</i> , 2020, 9, .	6.0	61
41	Increased PHGDH expression promotes aberrant melanin accumulation. <i>BMC Cancer</i> , 2019, 19, 723.	2.6	6
42	Identification of DHODH as a therapeutic target in small cell lung cancer. <i>Science Translational Medicine</i> , 2019, 11, .	12.4	89
43	Cellular redox state constrains serine synthesis and nucleotide production to impact cell proliferation. <i>Nature Metabolism</i> , 2019, 1, 861-867.	11.9	107
44	A framework for examining how diet impacts tumour metabolism. <i>Nature Reviews Cancer</i> , 2019, 19, 651-661.	28.4	87
45	Postdiagnosis Loss of Skeletal Muscle, but Not Adipose Tissue, Is Associated with Shorter Survival of Patients with Advanced Pancreatic Cancer. <i>Cancer Epidemiology Biomarkers and Prevention</i> , 2019, 28, 2062-2069.	2.5	26
46	Determinants of nutrient limitation in cancer. <i>Critical Reviews in Biochemistry and Molecular Biology</i> , 2019, 54, 193-207.	5.2	36
47	Phenotypic selection with an intrabody library reveals an anti-apoptotic function of PKM2 requiring Mitofusin-1. <i>PLoS Biology</i> , 2019, 17, e2004413.	5.6	14
48	Putting the K+ in K+aloric Restriction. <i>Immunity</i> , 2019, 50, 1129-1131.	14.3	4
49	Increased Serine Synthesis Provides an Advantage for Tumors Arising in Tissues Where Serine Levels Are Limiting. <i>Cell Metabolism</i> , 2019, 29, 1410-1421.e4.	16.2	168
50	Deoxycytidine Release from Pancreatic Stellate Cells Promotes Gemcitabine Resistance. <i>Cancer Research</i> , 2019, 79, 5723-5733.	0.9	90
51	Reactive metabolite production is a targetable liability of glycolytic metabolism in lung cancer. <i>Nature Communications</i> , 2019, 10, 5604.	12.8	45
52	Quantification of microenvironmental metabolites in murine cancers reveals determinants of tumor nutrient availability. <i>ELife</i> , 2019, 8, .	6.0	350
53	The redox requirements of proliferating mammalian cells. <i>Journal of Biological Chemistry</i> , 2018, 293, 7490-7498.	3.4	100
54	Molecular mechanisms of cell death: recommendations of the Nomenclature Committee on Cell Death 2018. <i>Cell Death and Differentiation</i> , 2018, 25, 486-541.	11.2	4,036

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55	Height, Obesity, and the Risk of <i>TMPRSS2:ERG</i>-Defined Prostate Cancer. <i>Cancer Epidemiology Biomarkers and Prevention</i> , 2018, 27, 193-200.	2.5	18
56	Lack of evidence for substrate channeling or flux between wildtype and mutant isocitrate dehydrogenase to produce the oncometabolite 2-hydroxyglutarate. <i>Journal of Biological Chemistry</i> , 2018, 293, 20051-20061.	3.4	11
57	PKM2 is not required for pancreatic ductal adenocarcinoma. <i>Cancer &amp; Metabolism</i> , 2018, 6, 17.	5.0	26
58	Yap regulates glucose utilization and sustains nucleotide synthesis to enable organ growth. <i>EMBO Journal</i> , 2018, 37, .	7.8	73
59	Transaminase Inhibition by 2-Hydroxyglutarate Impairs Glutamate Biosynthesis and Redox Homeostasis in Glioma. <i>Cell</i> , 2018, 175, 101-116.e25.	28.9	234
60	Protocols for Studies on TMPRSS2/ERG in Prostate Cancer. <i>Methods in Molecular Biology</i> , 2018, 1786, 131-151.	0.9	3
61	The nutrient environment affects therapy. <i>Science</i> , 2018, 360, 962-963.	12.6	104
62	Aspartate is an endogenous metabolic limitation for tumour growth. <i>Nature Cell Biology</i> , 2018, 20, 782-788.	10.3	240
63	Serine Synthesis via PHGDH Is Essential for Heme Production in Endothelial Cells. <i>Cell Metabolism</i> , 2018, 28, 573-587.e13.	16.2	127
64	Isoform-specific deletion of PKM2 constrains tumor initiation in a mouse model of soft tissue sarcoma. <i>Cancer &amp; Metabolism</i> , 2018, 6, 6.	5.0	24
65	Cytosolic Aspartate Availability Determines Cell Survival When Glutamine Is Limiting. <i>Cell Metabolism</i> , 2018, 28, 706-720.e6.	16.2	132
66	Microenvironmental regulation of cancer cell metabolism: implications for experimental design and translational studies. <i>DMM Disease Models and Mechanisms</i> , 2018, 11, .	2.4	96
67	Altered exocrine function can drive adipose wasting in early pancreatic cancer. <i>Nature</i> , 2018, 558, 600-604.	27.8	114
68	JAK2/IDH-mutantâ€“driven myeloproliferative neoplasm is sensitive to combined targeted inhibition. <i>Journal of Clinical Investigation</i> , 2018, 128, 789-804.	8.2	66
69	Endothelial Cells Get Î²-ox-ed In to Support Lymphangiogenesis. <i>Developmental Cell</i> , 2017, 40, 118-119.	7.0	4
70	Understanding the Intersections between Metabolism and Cancer Biology. <i>Cell</i> , 2017, 168, 657-669.	28.9	1,561
71	When cancer needs what's non-essential. <i>Nature Cell Biology</i> , 2017, 19, 418-420.	10.3	13
72	Biochemical Underpinnings of Immune Cell Metabolic Phenotypes. <i>Immunity</i> , 2017, 46, 703-713.	14.3	107

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73	Pyruvate Kinase Inhibits Proliferation during Postnatal Cerebellar Neurogenesis and Suppresses Medulloblastoma Formation. <i>Cancer Research</i> , 2017, 77, 3217-3230.	0.9	45
74	Direct evidence for cancer-cell-autonomous extracellular protein catabolism in pancreatic tumors. <i>Nature Medicine</i> , 2017, 23, 235-241.	30.7	263
75	Keap1 loss promotes Kras-driven lung cancer and results in dependence on glutaminolysis. <i>Nature Medicine</i> , 2017, 23, 1362-1368.	30.7	462
76	Targeting Metabolism for Cancer Therapy. <i>Cell Chemical Biology</i> , 2017, 24, 1161-1180.	5.2	677
77	Metabolism and Congenital Malformations – NAD <sup>+</sup> 's Effects on Development. <i>New England Journal of Medicine</i> , 2017, 377, 509-511.	27.0	4
78	Collagen-derived proline promotes pancreatic ductal adenocarcinoma cell survival under nutrient limited conditions. <i>Nature Communications</i> , 2017, 8, 16031.	12.8	299
79	Nature and Nurture: What Determines Tumor Metabolic Phenotypes?. <i>Cancer Research</i> , 2017, 77, 3131-3134.	0.9	60
80	Environmental cystine drives glutamine anaplerosis and sensitizes cancer cells to glutaminase inhibition. <i>ELife</i> , 2017, 6, .	6.0	237
81	Activation of the NRF2 antioxidant program generates an imbalance in central carbon metabolism in cancer. <i>ELife</i> , 2017, 6, .	6.0	167
82	PKM2 is not required for colon cancer initiated by APC loss. <i>Cancer &amp; Metabolism</i> , 2017, 5, 10.	5.0	28
83	Metabolomic Biomarkers of Prostate Cancer: Prediction, Diagnosis, Progression, Prognosis, and Recurrence. <i>Cancer Epidemiology Biomarkers and Prevention</i> , 2016, 25, 887-906.	2.5	98
84	A PHGDH inhibitor reveals coordination of serine synthesis and one-carbon unit fate. <i>Nature Chemical Biology</i> , 2016, 12, 452-458.	8.0	389
85	Germline loss of PKM2 promotes metabolic distress and hepatocellular carcinoma. <i>Genes and Development</i> , 2016, 30, 1020-1033.	5.9	122
86	Tissue of origin dictates branched-chain amino acid metabolism in mutant <i>Kras</i> -driven cancers. <i>Science</i> , 2016, 353, 1161-1165.	12.6	447
87	Altered metabolite levels in cancer: implications for tumour biology and cancer therapy. <i>Nature Reviews Cancer</i> , 2016, 16, 680-693.	28.4	306
88	Circadian Rhythm Disruption Promotes Lung Tumorigenesis. <i>Cell Metabolism</i> , 2016, 24, 324-331.	16.2	366
89	The importance of serine metabolism in cancer. <i>Journal of Cell Biology</i> , 2016, 214, 249-257.	5.2	299
90	Metabolic requirements for cancer cell proliferation. <i>Cancer &amp; Metabolism</i> , 2016, 4, 16.	5.0	99

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91	Environment Dictates Dependence on Mitochondrial Complex I for NAD <sup>+</sup> and Aspartate Production and Determines Cancer Cell Sensitivity to Metformin. <i>Cell Metabolism</i> , 2016, 24, 716-727.	16.2	269
92	<scp>PKM</scp> 2, cancer metabolism, and the road ahead. <i>EMBO Reports</i> , 2016, 17, 1721-1730.	4.5	384
93	Targeting MTHFD2 in acute myeloid leukemia. <i>Journal of Experimental Medicine</i> , 2016, 213, 1285-1306.	8.5	118
94	Circulating Metabolites and Survival Among Patients With Pancreatic Cancer. <i>Journal of the National Cancer Institute</i> , 2016, 108, djv409.	6.3	31
95	Biophysical changes reduce energetic demand in growth factorâ€“deprived lymphocytes. <i>Journal of Cell Biology</i> , 2016, 212, 439-447.	5.2	21
96	Environment Impacts the Metabolic Dependencies of Ras-Driven Non-Small Cell Lung Cancer. <i>Cell Metabolism</i> , 2016, 23, 517-528.	16.2	616
97	EGLN1 Inhibition and Rerouting of Î±-Ketoglutarate Suffice for Remote Ischemic Protection. <i>Cell</i> , 2016, 164, 884-895.	28.9	108
98	Amino Acids Rather than Glucose Account for the Majority of Cell Mass in Proliferating Mammalian Cells. <i>Developmental Cell</i> , 2016, 36, 540-549.	7.0	479
99	Lack of Evidence for PKM2 Protein Kinase Activity. <i>Molecular Cell</i> , 2015, 59, 850-857.	9.7	85
100	Human Pancreatic Cancer Tumors Are Nutrient Poor and Tumor Cells Actively Scavenge Extracellular Protein. <i>Cancer Research</i> , 2015, 75, 544-553.	0.9	673
101	Famine versus feast: understanding the metabolism of tumors in vivo. <i>Trends in Biochemical Sciences</i> , 2015, 40, 130-140.	7.5	150
102	A roadmap for interpreting <sup>13</sup> C metabolite labeling patterns from cells. <i>Current Opinion in Biotechnology</i> , 2015, 34, 189-201.	6.6	513
103	Supporting Aspartate Biosynthesis Is an Essential Function of Respiration in Proliferating Cells. <i>Cell</i> , 2015, 162, 552-563.	28.9	878
104	An epitope tag alters phosphoglycerate dehydrogenase structure and impairs ability to support cell proliferation. <i>Cancer &amp; Metabolism</i> , 2015, 3, 5.	5.0	34
105	Antibody-Mediated Neutralization of Perfringolysin O for Intracellular Protein Delivery. <i>Molecular Pharmaceutics</i> , 2015, 12, 1992-2000.	4.6	13
106	SHMT2 drives glioma cell survival in ischaemia but imposes a dependence on glycine clearance. <i>Nature</i> , 2015, 520, 363-367.	27.8	303
107	Dysregulated metabolism contributes to oncogenesis. <i>Seminars in Cancer Biology</i> , 2015, 35, S129-S150.	9.6	225
108	Pyruvate kinase: Function, regulation and role in cancer. <i>Seminars in Cell and Developmental Biology</i> , 2015, 43, 43-51.	5.0	388

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109	Pyruvate Kinase Isoform Expression Alters Nucleotide Synthesis to Impact Cell Proliferation. <i>Molecular Cell</i> , 2015, 57, 95-107.	9.7	209
110	A DERL3-associated defect in the degradation of SLC2A1 mediates the Warburg effect. <i>Nature Communications</i> , 2014, 5, 3608.	12.8	94
111	Targetable Signaling Pathway Mutations Are Associated with Malignant Phenotype in <i>IDH</i> -Mutant Gliomas. <i>Clinical Cancer Research</i> , 2014, 20, 2898-2909.	7.0	146
112	Cell-State-Specific Metabolic Dependency in Hematopoiesis and Leukemogenesis. <i>Cell</i> , 2014, 158, 1309-1323.	28.9	289
113	Elevation of circulating branched-chain amino acids is an early event in human pancreatic adenocarcinoma development. <i>Nature Medicine</i> , 2014, 20, 1193-1198.	30.7	510
114	Tracing Compartmentalized NADPH Metabolism in the Cytosol and Mitochondria of Mammalian Cells. <i>Molecular Cell</i> , 2014, 55, 253-263.	9.7	477
115	PKM2 Isoform-Specific Deletion Reveals a Differential Requirement for Pyruvate Kinase in Tumor Cells. <i>Cell</i> , 2013, 155, 397-409.	28.9	429
116	Heterogeneity of tumor-induced gene expression changes in the human metabolic network. <i>Nature Biotechnology</i> , 2013, 31, 522-529.	17.5	381
117	Macropinocytosis of protein is an amino acid supply route in Ras-transformed cells. <i>Nature</i> , 2013, 497, 633-637.	27.8	1,316
118	Allosteric Regulation of PKM2 Allows Cellular Adaptation to Different Physiological States. <i>Science Signaling</i> , 2013, 6, pe7.	3.6	93
119	Exploiting tumor metabolism: challenges for clinical translation. <i>Journal of Clinical Investigation</i> , 2013, 123, 3648-3651.	8.2	64
120	Differential Dependence On Aerobic Glycolysis In Normal and Malignant Hematopoietic Stem and Progenitor Cells To Sustain Daughter Cell Production. <i>Blood</i> , 2013, 122, 793-793.	1.4	3
121	Reductive glutamine metabolism by IDH1 mediates lipogenesis under hypoxia. <i>Nature</i> , 2012, 481, 380-384.	27.8	1,470
122	Small Molecule Activation of PKM2 in Cancer Cells Induces Serine Auxotrophy. <i>Chemistry and Biology</i> , 2012, 19, 1187-1198.	6.0	149
123	Pyruvate kinase M2 activators promote tetramer formation and suppress tumorigenesis. <i>Nature Chemical Biology</i> , 2012, 8, 839-847.	8.0	614
124	Inhibition of Pyruvate Kinase M2 by Reactive Oxygen Species Contributes to Cellular Antioxidant Responses. <i>Science</i> , 2011, 334, 1278-1283.	12.6	984
125	Targeting cancer metabolism: a therapeutic window opens. <i>Nature Reviews Drug Discovery</i> , 2011, 10, 671-684.	46.4	1,227
126	Phosphoglycerate dehydrogenase diverts glycolytic flux and contributes to oncogenesis. <i>Nature Genetics</i> , 2011, 43, 869-874.	21.4	945



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127	Aerobic Glycolysis: Meeting the Metabolic Requirements of Cell Proliferation. Annual Review of Cell and Developmental Biology, 2011, 27, 441-464.	9.4	2,333
128	The alternative splicing repressors hnRNP A1/A2 and PTB influence pyruvate kinase isoform expression and cell metabolism. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 1894-1899.	7.1	351
129	Activation of a Metabolic Gene Regulatory Network Downstream of mTOR Complex 1. Molecular Cell, 2010, 39, 171-183.	9.7	1,598
130	Evidence for an Alternative Glycolytic Pathway in Rapidly Proliferating Cells. Science, 2010, 329, 1492-1499.	12.6	586
131	Cancer-associated IDH1 mutations produce 2-hydroxyglutarate. Nature, 2009, 462, 739-744.	27.8	3,315
132	Understanding the Warburg Effect: The Metabolic Requirements of Cell Proliferation. Science, 2009, 324, 1029-1033.	12.6	12,186
133	Tyrosine Phosphorylation Inhibits PKM2 to Promote the Warburg Effect and Tumor Growth. Science Signaling, 2009, 2, ra73.	3.6	632
134	Pyruvate kinase M2 is a phosphotyrosine-binding protein. Nature, 2008, 452, 181-186.	27.8	881
135	The M2 splice isoform of pyruvate kinase is important for cancer metabolism and tumour growth. Nature, 2008, 452, 230-233.	27.8	2,423
136	Growth Factors Can Influence Cell Growth and Survival through Effects on Glucose Metabolism. Molecular and Cellular Biology, 2001, 21, 5899-5912.	2.3	466