CURRICULUM VITAE

Roel GW Verhaak, PhD

**Version date:** 11/2/2023

**Proposed for:** Appointment Professor, Traditional track with Tenure Department of Neurosurgery Yale School of Medicine

**Term:** On a continuing basis beginning 04/01/2023

**School:** Yale School of Medicine

**Education:**

2000 - 2004 MSc, Biomedical Sciences, Radboud University, Nijmegen, the Netherlands

2006 - 2006 PhD, Erasmus University Medical Center, Rotterdam, the Netherlands

2007 - 2010 Postdoctoral Fellow, Laboratory of Matthew Meyerson, Dana-Farber Cancer Institute/Broad Institute of MIT and Harvard, Cambridge MA

# Career/Academic Appointments:

2002 - 2003 Software engineer, Dalicon BV, Nijmegen, the Netherlands

2006 - 2007 Research Scientist, Laboratory of Peter JM Valk, Department of Hematology, Erasmus Medical Center, Rotterdam, the Netherlands

2010 - Computational biologist, Laboratory of Matthew Meyerson, Broad Institute of MIT and Harvard, Cambridge, MA.

2010 - 2015 Assistant professor, Department of Bioinformatics and Computational Biology, UT MD Anderson Cancer Center, Houston, TX

2013 - 2015 Assistant professor, Department of Genomic Medicine, UT MD Anderson Cancer Center, Houston, TX

2015 - 2016 Associate professor, Department of Bioinformatics and Computational Biology (primary), Department of Genomic Medicine (affiliate), UT MD Anderson Cancer Center, Houston, TX

2016 - 2023 Professor and Associate Director for Computational Biology, The Jackson Laboratory for Genomic Medicine, Farmington, CT

2017 - 2023 Adjunct professor, Department of Genetics and Genomic Sciences, Department of Neurosurgery, UConn Health

2018 - 2022 Scientific co-founder and scientific advisor board member, Boundless Bio, San Diego, CA

2021 - 2022 Stellanova Therapeutics, scientific advisory board member

2021 - Professor, Department of Neurosurgery, Amsterdam University Medical Center, Amsterdam,

 the Netherlands (10% effort)

2021 - 2023 Florine Dechenes Roux Endowed Chair for Genomics and Computational Biology

2022 - NeuroTrials, Inc/Ivy Brain Tumor Center scientific advisory board member

2023 – present Professor, Department of Neurosurgery, Yale School of Medicine

**Administrative Positions:**

2016 - Associate Director of Computational Biology, Jackson Laboratory for Genomic Medicine

2017 - 2022 Program Leader, Jackson Laboratory Cancer Center (NCI-designated)

2018 - Chair, Scientific Advisory Committee, Jackson Laboratory

2021 - 2023 Organizer, JAX-GM Distinguished Seminar Series

**Public & Institutional Service**

2016 - 2018 Terry Fox New Frontiers Program Project Grant (PI: Sheila Singh, MD, PhD), Scientific Advisory Board member. Grant reviewer for foundations including the Flemish Cancer Association, AIRC Foundation for Cancer Research, Brain Tumor Charity (UK), Brain Research UK (UK), Cancer Research UK (UK), the Dutch Cancer Society (Netherlands), KiKa (Netherlands), American Brain Tumor Association, CORE (Luxembourg), Polish Science Foundation (Poland), Fondazione Pisa (Italy), and others. Manuscript reviewer for journals including Cell, Nature, New England Journal of Medicine, Cancer Cell, Nature Genetics, Nature Medicine, Nature Methods, Nature Biotechnology, Nature Communications, Cell Stem Cell, and others. Editorial Board member of Neuro-Oncology and Genes, Chromosomes and Cancer.

2017 Member, Scientific Advisory Committee, Jackson Laboratory

2017 National Institute of Biomedical Imaging and Bioengineering (NIBIB), Multiscale Modeling program study section, ad hoc member

2017 Sidra Medical and Research Center, Doha, Qatar, External Advisory Board member

2018 National Cancer Institute Cancer Genetics study section, ad hoc member

2018 National Cancer Institute ZRG1 Special Emphasis Panel study section, ad hoc member

2019 Hartwig Medical Foundation, Scientific Advisory Board, member

2019 National Cancer Institute Cancer Genetics program study section, ad hoc member

2019 External Scientific Advisory Committee, Brain Cancer SPORE, University of Alabama in Birmingham, AL

2019 National Cancer Institute Integrated Canine Data Commons, Steering Committee member

2020 National Cancer Institute CSR Special Emphasis Panel study section, ad hoc member

2020 National Cancer Institute Cancer Genetics study section, ad hoc member

2021 External Scientific Advisory Committee, Brain Cancer SPORE, UT MD Anderson Cancer 2022 FY22 Rare Cancer Research Program for the Department of Defense Congressionally Directed Medical Research Programs, Neurological Cancer panel, ad hoc member.

2021 National Cancer Institute ZRG1 Special Emphasis Panel study section, ad hoc member

 Center

2021 National Cancer Institute ZRG1 Special Emphasis Panel study section, ad hoc member

 Center

2021 Cancer Research UK, Expert Review Panel

2021 National Cancer Institute ZCA1 Special Emphasis Panel study section, ad hoc member

2022 National Cancer Institute, SBIR Contract Review Panel, ad hoc member

2022 National Cancer Institute Cancer Genetics study section, ad hoc member

**Professional Honors & Recognition:**

***International/National/Regional***

2006 Netherlands Genomics Initiative Fellowship

2008 - 2010 Fundamental and pre-clinical fellowship, Dutch Cancer Society KWF

2011 Wilson S. Stone Memorial Award at MD Anderson's Symposia on Cancer Research

2013 Pediatric Brain Tumor Foundation, Peter Steck Memorial Award

2014 Adult Basic Science Award, Society for Neuro-Oncology Meeting 2014

2015 Finalist, Robert M. Chamberlain Distinguished Mentor Award

2015 Brain Tumor Epidemiology Consortium meeting, Rochester, MN (keynote)

2015 International Symposium on Clinical and Basic Investigation in Glioblastoma, Toledo, Spain(keynote)

2016 AAAS Martin and Rose Wachtel Cancer Research Award

2016 Agilent Early Career Professor Award

2017 Christopher Davidson Forum, Wash U School of Medicine, St. Louis, MO (keynote)

2018 Five Points Lecture, New York Genome Center, New York, NY

2018 Meeting of the Society for Neuro-Oncology of China, Changsha, China (keynote)

2018 Daniel den Hoed Visiting Professor, Erasmus University Medical Center, Rotterdam, the Netherlands

2019 21st Annual Labatt Brain Tumor Research Centre Academic Lectureship, The Hospital for Sick Children, Toronto, Canada

2019 Highly cited researcher; Web of Science

2020 Inter-SPORE Brain Cancer Meeting, Chicago, IL (keynote)

2020 Meeting of the Society for Neuro-Oncology in China, Nanjing, China (keynote)\*

2020 The Michael Rossman Brain Tumor Lectureship, 19th Biennial Canadian Neuro-Oncology meeting, Ottawa, Canada (keynote)\*

2020 American Association of Neuropathology 96th Annual Meeting Presidential Symposium speaker, Monterey, CA (virtual)

2020 Highly cited researcher; Web of Science

2021 122nd meeting of the British Neuropathological Society, keynote (virtual)

2021 26th Annual Meeting and Education Day of the Society for Neuro-Oncology, keynote

2022 6th Annual Translational and Transformative Informatics Symposium of the UAB Informatics Institute and Center for Clinical and Translational Science, keynote (virtual)

2022 2022 Joint Distinguished Lecture Speaker, Yale Stem Cell Center Retreat, West Haven, CT

2022 Scandinavian Society of Neuro-oncology (SNOG) 2022 symposium, Helsinki, Finland

2022 Highly cited researcher; Web of Science

# Invited Speaking Engagements, Presentations, Symposia & Workshops Not Affiliated with Yale:

2004 4th VIB Microarray Users Group Meeting, Brussels, Belgium

2004 CBSB Symposium on Bioinformatics in microarrays research, Amsterdam, the Netherlands

2005 Department of Hemato-oncology, Beth Israel Deaconess Medical Center, Boston, MA

2008 NUS Cancer Research Centre of Excellence, Singapore

2009 The Cancer Genome Atlas meeting on glioblastoma, San Diego, CA

2010 Computational Biology Center, Memorial Sloan Kettering Center, New York, NY

2010 Netherlands Cancer Institute

2010 Department of Bioinformatics and Computational Biology, MD Anderson Cancer Center, Houston, TX

2011 Center for Molecular Medicine, Vienna, Austria

2011 “New roles for the EGFR Family in Cancer” Symposium, MD Anderson Cancer Center, Houston, TX

2011 Grand Rounds, University of Michigan, Ann Arbor, MI

2011 NRCI Cancer Conference 2011, Liverpool, UK

2012 Department of Genetics, Baylor College of Medicine, Houston, TX

2012 NCI Clinical Proteomic Technologies for Cancer meeting, Houston, TX

2012 1st Brazilian Genome Conference, Foz do Iguacu, Brazil

2012 58th Brazilian Congress of Genetics, Foz do Iguacu, Brazil

2012 21st Annual Symposium on Molecular Pathology, Troy, MI

2012 The Cancer Genome Atlas Pan-cancer comparison meeting, Santa Cruz, CA

2012 Memorial Sloan-Kettering Brain Tumor Center, New York, NY

2012 Ontario Cancer Institute, Toronto, CA

2013 The Cancer Genome Atlas Steering Committee meeting, Bethesda, MD

2013 Symposia on Cancer Research 2013: Genomic Medicine, Houston,

2013 Department of Medical Oncology, University Medical Center Utrecht, Utrecht, the Netherlands

2013 NCI Workshop: Correlating imaging phenotypes with genomic signatures, Bethesda, MD

2014 ASCO Genitourinary Cancers Symposium, San Francisco, CA

2014 VU Medical Center, Amsterdam, The Netherlands

2014 Einstein Circle GBM Biology, Berlin, Germany

2014 Department of Neurological Surgery, University of California San Francisco, San Francisco, CA

2015 Seminars in Oncology, Dana-Farber Cancer Institute, Boston, MA

2015 Cedar-Sinai Medical Center, Los Angeles, CA

2015 Spanish National Cancer Research Centre (CNIO), Madrid, Spain

2015 American Brain Tumor Association Alumni Network meeting, Chicago, IL

2015 International Symposium on Clinical and Basic Investigation in Glioblastoma, Toledo, Spain(keynote)

2015 Brain Tumor Epidemiology Consortium meeting, Rochester, MN (keynote)

2015 Society for Neuro-Oncology 2015 Annual Meeting, San Antonio, TX

2015 Samsung Medical Center, Seoul, South Korea

2016 Cold Spring Harbor Laboratory Brain Tumor Course, Huntington, NY

2016 German Cancer Center, Heidelberg, Germany

2016 Samsung Medical Center, Seoul, South-Korea

2016 Radboud University Medical Center, Nijmegen, the Netherlands

2016 VU Medical Center, Amsterdam, the Netherlands

2016 Dartmouth College, Hanover, NH

2017 Annual Society for Neuro-Oncology meeting, San Francisco, CA

2017 Luxembourg Institute of Health (LIH), Luxembourg, Luxembourg

2017 Christopher Davidson Forum, Wash U School of Medicine, St. Louis, MO (keynote)

2017 Jackson Laboratory, 26th Short Course on Human Cancer, Bar Harbor, ME

2017 World Federation of Neuro-Oncology Societies, Zurich, Switzerland

2017 American Association for Cancer Research, Washington, DC

2017 CNIO Frontier meeting: Primary and Secondary Brain Tumors, Madrid, Spain

2017 Seminars in Oncology, Dana-Farber Cancer Institute, Boston, MA

2017 Yale School of Public Health, Yale University, New Haven, CT

2017 Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA

2018 Oligodendroglioma workshop, Neuro-Oncological Branch, NIH Clinical Center, Washington, DC

2018 Brain Cancer Strategy Workshop by ABC2, Washington, DC

2018 American Brain Tumor Association Alumni Network meeting, Chicago, IL

2018 Cold Spring Harbor Laboratory Brain Tumor Course, Huntington, NY

2018 24th Conference of the International Union of Biochemistry and Molecular Biology, Seoul, South Korea

2018 Ewha Women’s University, Seoul, South Korea

2018 Cancer Research UK Brain Tumor Conference 2018, London, UK

2018 Meeting of the Society for Neuro-Oncology of China, Changsha, China (keynote)

2018 Five Points Lecture, New York Genome Center, New York, NY

2019 Frontiers in Precision Medical Science, KAIST, Daejeon, South-Korea

2019 Molecular Analysis for Personalized Therapy Congress 2019, London, UK

2019 Berlin Brain Tumor Meeting, Berlin, Germany

2019 Glioblastoma Workshop, Banbury Center, Cold Spring Harbor Laboratory, Lloyd Harbor, NY

2019 Department of Neurosurgery, University of Alabama Birmingham, Birmingham, AL

2020 Brigham and Women’s/Harvard Oncology, webinar

2020 Brain Tumor Charity, webinar

2020 Barrow Neuroscience Institute, Grand Rounds, Phoenix, AZ

2021 Third Annual Cutting Edge in Neuroscience Symposium, UConn Health (virtual)

2021 Nederlandse Vereniging voor Radio-Biology Symposium (virtual)

2021 Australian Brain Cancer Research Alliance Research Symposium, keynote speaker

2021 International Conference of The Genetics Society of Korea (virtual)

2021 Hong Kong and Shanghai Brain Consortium (virtual)

2021 Dana-Farber Cancer Institute Seminars in Oncology, webinar

2021 Philadelphia Coalition for a Cure Symposium (virtual)

2021 European Association of Neuro-Oncology Annual Meeting (virtual)

2021 Missouri University of Science and Technology and Southern Illinois University, Edwardsville, MO, webinar

2021 Biotechnology Center of the Federal University of Rio Grande do Sul, Brazil, webinar.

2021 Romanian Society of Bioinformatics, webinar

2021 Royal Society of Medicine Medical Genetics section (UK), webinar

2021 UT Health San Antonio, webinar

2021 University of Cambridge Cancer Centre Conference (keynote), webinar

2021 AACR Annual Meeting, Educational session, webinar

2021 The Institute of Cancer Research, London, webinar

2021 Dana-Farber/Harvard Cancer Center, Grand Rounds in Neuro-Oncology, webinar

2021 Royal College of Surgeons of Dublin, webinar

2021 First UCSF Brain Tumor Center Retreat, webinar

2021 NCI Neuro-Oncological Branch, webinar

2022 Memorial Sloan-Kettering Computational Oncology seminar series

2022 Society for Neuro-Oncology in Latin America 2022 (virtual)

2022 Forbeck Forum on The Genesis and Function of Extrachromosomal Oncogene Amplifications in Cancer, Denver, CO

2022 American Association for Cancer Research, session chair and invited speaker, New Orleans, LA

2022 Yale Clinical Neuroscience Grand Rounds (virtual)

2022 Memorial Sloan Kettering Radiation Oncology Grand Rounds (virtual)

2022 Cooper Health Neurosurgery Grand Rounds (virtual)

2022 European Society for Medical Oncology, Paris, France

2022 Netherlands Cancer Institute, Amsterdam, the Netherlands

2022 University of Virginia Comprehensive Cancer Center Michael Weber Symposium, Charlottesville, VA

2022 14th International Frontiers in Cancer Science Conference, Singapore.

2023 Dartmouth College, Lebanon, NH

2023 Cleveland Clinic, Cleveland, OH

2023 University of Texas Southwestern, Dallas, TX

2023 Mark Foundation Workshop on CIN, London, UK

***Journals:***

***Patent and patent applications***

1. WO US US20180330049A1. Methods for classification of glioma. Iavarone A, Noushmehr H, **Verhaak RGW**.
2. WO US US20190360029A1. A method of targeting patient-specific oncogenes in extrachromosomal DNA to treat glioblastoma. **Verhaak R**, Kim H, DeCarvalho A, Mikkelsen T.
3. WO US US20210062250A1: Extrachromosomal DNA Labeling. Yi E, **Verhaak R**.
4. WO2020223309A1: Extrachromosomal DNA identification and methods of use. Wei C, Zhu Y, **Verhaak R.**
5. Pending: A genomic signature of radiation therapy damage. Kocakavuk E, Barthel F, **Verhaak R.**

***Research Support***

1. Extrachromosomal DNA as a Targetable Mechanism in Glioblastoma (**Verhaak**). NIH/NCI R01 CA237208. 12/01/19-11/30/24.
2. Familial GBM (Personal Philanthropic Donation, total committed amount $1M, to the lab of Roel Verhaak, Wells Family). 2021-2024.
3. OPTimIzing Engagement in discovery of molecular evolution of low-grade glioma (OPTIMUM). (Claus, Verhaak, Kwan). NIH/NCI U2C CA252979. 09/01/2021-08/31/2026
4. Understanding the cellular and functional changes in the immune tumor microenvironment of glioblastoma during progression and treatments (Charest, Boussiotis, Verhaak). NIH/NCI R01CA271601. 04/17/23-03/31/28.
5. eDynamic – Yale University (Verhaak). CRUK Cancer Grand Challenges CGCATF-2021/100016. 06/01/22-05/31/27
6. eDynamic – Yale University (Verhaak). NIH/NCI OT2-CA278649. 06/01/22-05/31/27.

**Bibliography:**

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¥ Member of manuscript committee

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2. Heffernan AE, Wu Y, Benz LS, **Verhaak RGW**, Kwan BM, Claus EB. Quality of life after surgery for lower grade gliomas. **Cancer. 2023 Aug 20.** doi: 10.1002/cncr.34980. Epub ahead of print. PMID: 37599093.
3. Claus EB, **Verhaak RGW.** Targeting IDH in Low-Grade Glioma. N Engl J Med. **2023 Aug** 17;389(7):655-659. doi: 10.1056/NEJMe2305602. PMID: 37585633.
4. Kocakavuk E, Johnson KC, Sabedot TS, Reinhardt HC, Noushmehr H, Verhaak RGW. Hemizygous CDKN2A deletion confers worse survival outcomes in IDHmut-noncodel gliomas. Neuro Oncol. 2023 Sep 5;25(9):1721-1723. doi: 10.1093/neuonc/noad095. PMID: 37329568; PMCID: PMC10479907.
5. Luebeck J, Ng AWT, Galipeau PC, Li X, Sanchez CA, Katz-Summercorn AC, Kim H, Jammula S, He Y, Lippman SM, **Verhaak RGW,** Maley CC, Alexandrov LB, Reid BJ, Fitzgerald RC, Paulson TG, Chang HY, Wu S, Bafna V, Mischel PS. Extrachromosomal DNA in the cancerous transformation of Barrett's oesophagus. Nature. 2023 Apr;616(7958):798-805. doi: 10.1038/s41586-023-05937-5. Epub **2023 Apr 12**. PMID: 37046089; PMCID: PMC10132967.
6. Akdemir KC, Le VT, Chandran S, Li Y, **Verhaak RG**, Beroukhim R, Campbell PJ, Chin L, Dixon JR, Futreal PA; PCAWG Structural Variation Working Group; PCAWG Consortium. Author Correction: Disruption of chromatin folding domains by somatic genomic rearrangements in human cancer. Nat Genet. **2023 Jun;**55(6):1079. doi: 10.1038/s41588-023-01318-w. Erratum for: Nat Genet. 2020 Mar;52(3):294-305. PMID: 36944735; PMCID: PMC10260394.
7. Yeo AT, Shah R, Aliazis K, Pal R, Xu T, Zhang P, Rawal S, Rose CM, Varn FS, Appleman VA, Yoon J, Varma H, Gygi SP, **Verhaak RGW**, Boussiotis VA, Charest A. Driver Mutations Dictate the Immunologic Landscape and Response to Checkpoint Immunotherapy of Glioblastoma. Cancer Immunol Res. 2023 May 3;11(5):629-645. doi: 10.1158/2326-6066.CIR-22-0655. PMID: 36881002; PMCID: PMC10155040.
8. Schuster AL, Crossnohere NL, Bachini M, Blair CK, Carpten JD, Claus EB, Colditz GA, Ding L, Drake BF, Fields RC, Janeway KA, Kwan BM, Lenz HJ, Ma Q, Mishra SI, Paskett ED, Rebbeck TR, Ricker C, Stern MC, Sussman AL, Tiner JC, Trent JM, **Verhaak RG**, Wagle N, Willman C, Bridges JF; Participant Engagement and Cancer Genome Sequencing (PE-CGS) Network. Priorities to Promote Participant Engagement in the Participant Engagement and Cancer Genome Sequencing (PE-CGS) Network. Cancer Epidemiol Biomarkers Prev. 2023 Apr 3;32(4):487-495. doi: 10.1158/1055-9965.EPI-22-0356. PMID: 36791345; PMCID: PMC10068438.
9. Ajaib S, Lodha D, Pollock S, Hemmings G, Finetti MA, Gusnanto A, Chakrabarty A, Ismail A, Wilson E, Varn FS, Hunter B, Filby A, Brockman AA, McDonald D, **Verhaak RGW**, Ihrie RA, Stead LF. GBMdeconvoluteR accurately infers proportions of neoplastic and immune cell populations from bulk glioblastoma transcriptomics data. Neuro Oncol. 2023 Jul 6;25(7):1236-1248. doi: 10.1093/neuonc/noad021. PMID: 36689332; PMCID: PMC10326489.
10. Al-Holou WN, Wang H, Ravikumar V, Shankar S, Oneka M, Fehmi Z, **Verhaak RG**, Kim H, Pratt D, Camelo-Piragua S, Speers C, Wahl DR, Hollon T, Sagher O, Heth JA, Muraszko KM, Lawrence TS, de Carvalho AC, Mikkelsen T, Rao A, Rehemtulla A. Subclonal evolution and expansion of spatially distinct THY1-positive cells is associated with recurrence in glioblastoma. Neoplasia. 2023 Feb;36:100872. doi: 10.1016/j.neo.2022.100872. Epub 2023 Jan 6. PMID: 36621024; PMCID: PMC9841165.
11. White K, Connor K, Meylan M, Bougoüin A, Salvucci M, Bielle F, O'Farrell AC, Sweeney K, Weng L, Bergers G, Dicker P, Ashley DM, Lipp ES, Low JT, Zhao J, Wen P, Prins R, Verreault M, Idbaih A, Biswas A, Prehn JHM, Lambrechts D, Arijs I, Lodi F, Dilcan G, Lamfers M, Leenstra S, Fabro F, Ntafoulis I, Kros JM, Cryan J, Brett F, Quissac E, Beausang A, MacNally S, O'Halloran P, Clerkin J, Bacon O, Kremer A, Chi Yen RT, Varn FS, **Verhaak RGW**, Sautès-Fridman C, Fridman WH, Byrne AT. Identification, validation, and biological characterisation of novel glioblastoma tumour microenvironment subtypes: implications for precision immunotherapy. Ann Oncol. 2023 Mar;34(3):300-314. doi: 10.1016/j.annonc.2022.11.008. Epub 2022 Dec 6. PMID: 36494005.
12. Pecorino LT, **Verhaak RGW**, Henssen A, Mischel PS. Extrachromosomal DNA (ecDNA): an origin of +tumor heterogeneity, genomic remodeling, and drug resistance. Biochem Soc Trans. 2022 Dec 16;50(6):1911-1920. doi: 10.1042/BST20221045. PMID: 36355400; PMCID: PMC9788557.
13. Zhang ZY, Ding Y, Ezhilarasan R, Lhakhang T, Wang Q, Yang J, Modrek AS, Zhang H, Tsirigos A, Futreal A, Draetta GF, Verhaak RGW, Sulman EP. Lineage-coupled clonal capture identifies clonal evolution mechanisms and vulnerabilities of BRAFV600E inhibition resistance in melanoma. Cell Discov. 2022 Oct 6;8(1):102. doi: 10.1038/s41421-022-00462-7. PMID: 36202798; PMCID: PMC9537441.
14. Wu L, Wu W, Zhang J, Zhao Z, Li L, Zhu M, Wu M, Wu F, Zhou F, Du Y, Chai RC, Zhang W, Qiu X, Liu Q, Wang Z, Li J, Li K, Chen A, Jiang Y, Xiao X, Zou H, Srivastava R, Zhang T, Cai Y, Liang Y, Huang B, Zhang R, Lin F, Hu L, Wang X, Qian X, Lv S, Hu B, Zheng S, Hu Z, Shen H, You Y, **Verhaak RGW,** Jiang T, Wang Q. Natural Coevolution of Tumor and Immunoenvironment in Glioblastoma. Cancer Discov. 2022 Dec 2;12(12):2820-2837. doi: 10.1158/2159-8290.CD-22-0196. PMID: 36122307; PMCID: PMC9716251.
15. Modrek AS, Eskilsson E, Ezhilarasan R, Wang Q, Goodman LD, Ding Y, Zhang ZY, Bhat KPL, Le TT, Barthel FP, Tang M, Yang J, Long L, Gumin J, Lang FF, **Verhaak RGW**, Aldape KD, Sulman EP. PDPN marks a subset of aggressive and radiation-resistant glioblastoma cells. Front Oncol. 2022 Aug 10;12:941657. doi: 10.3389/fonc.2022.941657. PMID: 36059614; PMCID: PMC9434399.
16. Yi E, Chamorro González R, Henssen AG, **Verhaak RGW.** Extrachromosomal DNA amplifications in cancer. Nat Rev Genet. 2022 Dec;23(12):760-771. doi: 10.1038/s41576-022-00521-5. Epub 2022 Aug 11. PMID: 35953594; PMCID: PMC9671848.
17. Varn FS, Johnson KC, Martinek J, Huse JT, Nasrallah MP, Wesseling P, Cooper LAD, Malta TM, Wade TE, Sabedot TS, Brat D, Gould PV, Wöehrer A, Aldape K, Ismail A, Sivajothi SK, Barthel FP, Kim H, Kocakavuk E, Ahmed N, White K, Datta I, Moon HE, Pollock S, Goldfarb C, Lee GH, Garofano L, Anderson KJ, Nehar-Belaid D, Barnholtz-Sloan JS, Bakas S, Byrne AT, D'Angelo F, Gan HK, Khasraw M, Migliozzi S, Ormond DR, Paek SH, Van Meir EG, Walenkamp AME, Watts C, Weiss T, Weller M, Palucka K, Stead LF, Poisson LM, Noushmehr H, Iavarone A, **Verhaak RGW**; GLASS Consortium. Glioma progression is shaped by genetic evolution and microenvironment interactions. Cell. 2022 Jun 9;185(12):2184-2199.e16. doi: 10.1016/j.cell.2022.04.038. Epub 2022 May 31. PMID: 35649412; PMCID: PMC9189056.
18. Yamaguchi M, Nakaoka H, Suda K, Yoshihara K, Ishiguro T, Yachida N, Saito K, Ueda H, Sugino K, Mori Y, Yamawaki K, Tamura R, Revathidevi S, Motoyama T, Tainaka K, **Verhaak RGW**, Inoue I, Enomoto T. Spatiotemporal dynamics of clonal selection and diversification in normal endometrial epithelium. Nat Commun. 2022 Feb 17;13(1):943. doi: 10.1038/s41467-022-28568-2. PMID: 35177608; PMCID: PMC8854701.
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