

Supplementary Material: Supplementary Tables 1 & 2

Table 1: WoS **Hot Papers**, Top 20 (Non-mammal works excluded)

Rank	Title	Authors	Year	Publication Venue	Topic Area
1	COVID-19 and its implications for thrombosis and anticoagulation	Connors & Levy	2020	Blood	Blood Flow
2	Reactive oxygen species (ROS) as pleiotropic physiological signalling agents	Sies & Jones	2020	Nature Reviews Molecular Cell Biology	Molecular interactions
3	mTOR at the nexus of nutrition, growth, ageing and disease	Liu & Sabatini	2020	Nature Reviews Molecular Cell Biology	Molecular pathways
4	Metabolic regulation of gene expression by histone lactylation	Zhang et al.	2019	Nature	Molecular dynamics, Molecular pathways
5	Angiotensin-converting enzyme 2 (ACE2), SARS-CoV-2 and the pathophysiology of coronavirus disease 2019 (COVID-19)	Bourgonje et al.	2021	Journal of Pathology	Molecular pathways
6	The PI3K-AKT network at the interface of oncogenic signalling and cancer metabolism	Hoxhaj & Manning	2020	Nature Reviews Cancer	Molecular pathways
7	Mitochondrial TCA cycle metabolites control physiology and disease	Martinez-Reyes & Chandel	2020	Nature Communications	Cell dynamics
8	The role of short-chain fatty acids from gut microbiota in gut-brain communication	Silva et al.	2020	Frontiers in Endocrinology	Molecular pathways, *Organism
9	The brain's default network: updated anatomy, physiology and evolving insights	Buckner & DiNicola	2019	Nature Reviews Neuroscience	Brain function
10	Diet-microbiota interactions and personalized nutrition	Kolodziejczyk et al.	2019	Nature Reviews Microbiology	Cell interactions, *Organism
11	Identification of region-specific astrocyte subtypes at single cell resolution	Batiuk et al.	2020	Nature Communications	Cell interactions
12	Ferroptosis: mechanisms, biology and role in disease	Jiang et al.	2021	Nature Reviews Molecular Cell Biology	Cell dynamics
13	Organs-on-chips: into the next decade	Low et al.	2021	Nature Reviews Drug Discovery	Tissue interactions
14	Perivascular spaces in the brain: anatomy, physiology and pathology	Wardlaw et al.	2020	Nature Reviews Neurol.	Brain function
15	Social determinants of health and survival in humans and other animals	Snyder-Mackler et al.	2020	Science	*Organism, Population physio.
16	3-month, 6-month, 9-month, and 12-month respiratory outcomes in patients following COVID-19-related hospitalisation: a prospective study	Wu et al.	2021	Lancet Respiratory Medicine	Lung function
17	Microbial Regulation of Host Physiology by Short-chain Fatty Acids	van der Hee & Wells	2021	Trends in Microbiology	Molecular pathways
18	A human-airway-on-a-chip for the rapid identification of candidate antiviral therapeutics and prophylactics	Si et al.	2021	Nature Biomedical Engineering	Tissue dynamics
19	When the human brain goes diving: using near-infrared spectroscopy to measure cerebral and systemic cardiovascular responses to deep, breath-hold diving in elite freedivers	McKnight et al.	2021	Philosophical Transactions of the Royal Society B: Biological Sciences	Heart function, Brain function

Table 2: WoS **Highly Cited Papers**, Top 20 (Non-mammal works excluded)

Rank	Paper Title	Authors	Year	Publication Venue	Topic Area
1	2013 ACCF/AHA Guideline for the Management of Heart Failure	Yancy et al.	2013	Journal of the American College of Cardiology.	Heart function, Blood Flow
2	2014 AHA/ACC/HRS Guideline for the Management of Patients With Atrial Fibrillation	January et al.	2014	Circulation	Heart function
3	2014 AHA/ACC/HRS Guideline for the Management of Patients With Atrial Fibrillation	January et al.	2014	Journal of the American College of Cardiology.	Heart function
4	mTOR Signaling in Growth, Metabolism, and Disease	Saxton & Sabatini	2017	Cell	Molecular pathways
5	Diversity, stability and resilience of the human gut microbiota	Lozupone et al.	2012	Nature	Cell interactions
6	Interactions Between the Microbiota and the Immune System	Hooper et al.	2012	Science	Cell interactions, *Organism
7	Macrophage biology in development, homeostasis and disease	Wynn et al.	2013	Nature	Cell dynamics
8	Physiology of Microglia	Kettenmann et al.	2011	Physiological Reviews	Cell dynamics, interactions
9	Mind-altering microorganisms: the impact of the gut microbiota on brain and behaviour	Cryan & Dinan	2012	Nature Reviews Neuroscience	Cell interactions, *Organism
10	Lipid Peroxidation: Production, Metabolism, and Signaling Mechanisms of Malondialdehyde and 4-Hydroxy-2-Nonenal	Ayala et al.	2014	Oxidative Medicine & Cellular Longevity	Molecular interactions
11	Control of apoptosis by the BCL-2 protein family: implications for physiology and therapy	Czabotar et al.	2014	Nature Reviews Molec. Cell Biology	Cell dynamics
12	From Dietary Fiber to Host Physiology: Short-Chain Fatty Acids as Key Bacterial Metabolites	Koh et al.	2016	Cell	Molecular pathways, *Organism
13	Hypoxia-Inducible Factors in Physiology and Medicine	Semenza	2012	Cell	Molecular pathways
14	Prone Positioning in Severe Acute Respiratory Distress Syndrome	Guerin et al.	2013	New England Journal of Medicine	Lung function
15	Normal gut microbiota modulates brain development and behavior	Heijtza et al.	2011	Proceedings of the National Academy of Sciences of the USA	Cell interactions, Brain function
16	The gut microbiota - masters of host development and physiology	Sommer & Baeckhed	2013	Nature Reviews Microbiology	Cell interactions
17	The landscape of long noncoding RNAs in the human transcriptome	Iyer et al.	2015	Nature Genetics	Molecular pathways
18	Microfluidic organs-on-chips	Bhatia & Ingber	2014	Nature Biotechnology	Tissue dynamics
19	Proteomic comparison defines novel markers to characterize heterogeneous populations of extracellular vesicle subtypes	Kowal et al.	2016	Proceedings of the National Academy of Sciences of the USA	Cell interactions
20	Pro-resolving lipid mediators are leads for resolution physiology	Serhan	2014	Nature	Molecular pathways