

EVIDENCE OF PROTEIN OPERATING MECHANISTICALLY AS HIV'S NEF

2022 Jul 22

Tunneling nanotubes provide a route for SARS-CoV-2 spreading

<https://pubmed.ncbi.nlm.nih.gov/35857849/>

Potential Role of the Formation of Tunneling Nanotubes in HIV-1 Spread in Macrophages

<https://journals.aai.org/jimmunol/article/196/4/1832/43260/Potential-Role-of-the-Formation-of-Tunneling>

2024 Sep

SARS-CoV-2 spike protein acts as a β -adrenergic receptor agonist: A potential mechanism for cardiac sequelae of long COVID

<https://pubmed.ncbi.nlm.nih.gov/39073192/>

Blockade of beta adrenergic receptors protects the blood brain barrier and reduces systemic pathology caused by HIV-1 Nef protein

<https://pubmed.ncbi.nlm.nih.gov/34784367/>

2022 October

Role of CCL2/CCR2 axis in the pathogenesis of COVID-19 and possible Treatments: All options on the Table

<https://pmc.ncbi.nlm.nih.gov/articles/PMC9561120/>

2022 September

Monocytosis in the acute phase of SARS-CoV-2 infection predicts the presence of anosognosia for cognitive deficits in the chronic phase

<https://pmc.ncbi.nlm.nih.gov/articles/PMC9477785/>

2021 October

Macrophages and Monocytes: "Trojan Horses" in COVID-19

<https://pmc.ncbi.nlm.nih.gov/articles/PMC8624282/>

Nef-induced CCL2 Expression Contributes to HIV/SIV Brain Invasion and Neuronal Dysfunction

<https://pmc.ncbi.nlm.nih.gov/articles/PMC6803470/>

2023 September

SARS-CoV-2 infection triggers pro-atherogenic inflammatory responses in human coronary vessels

<https://www.nature.com/articles/s44161-023-00336-5>

HIV protein Nef causes dyslipidemia and formation of foam cells in mouse models of atherosclerosis

<https://pmc.ncbi.nlm.nih.gov/articles/PMC4062825/>

Human Immunodeficiency Virus Protease Inhibitor Ritonavir Inhibits Cholesterol Efflux from Human Macrophage-Derived Foam Cells

<https://pmc.ncbi.nlm.nih.gov/articles/PMC1941585/>

The worst is yet to come: probable sporadic Creutzfeldt-Jakob disease in a well-controlled HIV patient

<https://pubmed.ncbi.nlm.nih.gov/31405318/>

Creutzfeldt–Jakob disease in a post-COVID-19 patient: did SARS-CoV-2 accelerate the neurodegeneration?

<https://ejnppn.springeropen.com/articles/10.1186/s41983-023-00666-y>

YKL-40 as a new promising prognostic marker of severity in COVID infection

<https://pmc.ncbi.nlm.nih.gov/articles/PMC7886185/>

YKL-40

A Candidate Biomarker for Simian Immunodeficiency Virus and Human Immunodeficiency Virus Encephalitis?

[https://ajp.amjpathol.org/article/S0002-9440\(10\)61582-9/fulltext](https://ajp.amjpathol.org/article/S0002-9440(10)61582-9/fulltext)

2021 Jan

Evidence of Pulmonary Hypertension after SARS-CoV-2 Infection in Subjects without Previous Significant Cardiovascular Pathology

<https://pmc.ncbi.nlm.nih.gov/articles/PMC7827420/>

Pathogenesis of HIV-Associated Pulmonary Hypertension

<https://pmc.ncbi.nlm.nih.gov/articles/PMC3132790/>

Attenuation of multiple Nef functions in HIV-1 elite controllers

<https://retrovirology.biomedcentral.com/articles/10.1186/1742-4690-10-1>

EVIDENCE OF PROTEIN OPERATING MECHANISTICALLY AS HIV'S TAT

2024 March

SARS-CoV-2 targets ribosomal RNA biogenesis

[https://www.cell.com/cell-reports/fulltext/S2211-1247\(24\)00219-5](https://www.cell.com/cell-reports/fulltext/S2211-1247(24)00219-5)

The HIV Tat protein affects processing of ribosomal RNA precursor

<https://pubmed.ncbi.nlm.nih.gov/18559082/>

2024 June

SARS-CoV-2 Viroporin E Induces Ca^{2+} Release and Neuron Cell Death in Primary Cultures of Rat Hippocampal Cells Aged In Vitro

<https://pubmed.ncbi.nlm.nih.gov/38928009/>

HIV-1 protein Tat induces apoptosis of hippocampal neurons by a mechanism involving caspase activation, calcium overload, and oxidative stress

<https://pubmed.ncbi.nlm.nih.gov/9878167/>

HIV-1 Tat-induced cerebrovascular toxicity is enhanced in mice with amyloid deposits

<https://pmc.ncbi.nlm.nih.gov/articles/PMC3206197/>

2023 December

SARS-CoV-2 Infection is Associated with an Increase in New Diagnoses of Schizophrenia Spectrum and Psychotic Disorder: A Study Using the US National COVID Cohort Collaborative (N3C)

<https://pubmed.ncbi.nlm.nih.gov/38106125/>

2024 February

Long COVID Complications in Neurodiverse Populations

<https://www.ancor.org/connections/long-covid-complications-in-neurodiverse-populations/>

2024 October

Long COVID elevated MMP-9 and release from microglia by SARS-CoV-2 Spike protein

<https://pmc.ncbi.nlm.nih.gov/articles/PMC11472557/>

2022 June

SARS-CoV-2 infection of human brain microvascular endothelial cells leads to inflammatory activation through NF- κ B non-canonical pathway and mitochondrial remodeling

<https://pmc.ncbi.nlm.nih.gov/articles/PMC9216729/>

Disruption of blood-brain barrier: effects of HIV Tat on brain microvascular endothelial cells and tight junction proteins

<https://pubmed.ncbi.nlm.nih.gov/37899420/>

2024 March

COVID-19 related neurological manifestations in Parkinson's disease: has ferroptosis been a suspect?

<https://www.nature.com/articles/s41420-024-01915-6>

HIV-1 Tat-mediated microglial ferroptosis involves the miR-204-ACSL4 signaling axis

<https://pubmed.ncbi.nlm.nih.gov/37023693/>

2022 November

SARS-CoV-2-Induced Amyloidogenesis: Not One, but Three Hypotheses for Cerebral COVID-19 Outcomes

<https://pmc.ncbi.nlm.nih.gov/articles/PMC9692683/>

HIV-1 Tat Upregulates the Receptor for Advanced Glycation End Products and Superoxide Dismutase-2 in the Heart of Transgenic Mice

<https://www.mdpi.com/1999-4915/14/10/2191>

2023 October

Role of Tau protein in long COVID and potential therapeutic targets

<https://pmc.ncbi.nlm.nih.gov/articles/PMC10634420/>

HIV and Alzheimer's disease: complex interactions of HIV-Tat with amyloid β peptide and Tau protein

<https://pubmed.ncbi.nlm.nih.gov/31016584/>

2023 October

Post-COVID-19 Cognitive Decline and Apoe Polymorphism: Towards a Possible Link?

<https://pubmed.ncbi.nlm.nih.gov/38137059/>

Apolipoprotein E isoform dependently affects Tat-mediated HIV-1 LTR transactivation

<https://jneuroinflammation.biomedcentral.com/articles/10.1186/s12974-018-1129-1>

2022 June

The IL-1 β , IL-6, and TNF cytokine triad is associated with post-acute sequelae of COVID-19

<https://pubmed.ncbi.nlm.nih.gov/35732153/>

Mechanism of HIV-1-TAT Induction of Interleukin-1 β from Human Monocytes: Involvement of the Phospholipase C/Protein Kinase C Signaling Cascade

<https://pmc.ncbi.nlm.nih.gov/articles/PMC2849807/>

HIV-1 Tat induces the expression of the interleukin-6 (IL6) gene by binding to the IL6 leader RNA and by interacting with CAAT enhancer-binding protein beta (NF-IL6) transcription factors

<https://pubmed.ncbi.nlm.nih.gov/9169458/>

Human Immunodeficiency Virus Type-1 Protein Tat Induces Tumor Necrosis Factor- α -Mediated Neurotoxicity

<https://pmc.ncbi.nlm.nih.gov/articles/PMC2080622/>

The Role of Brain Derived Neurotrophic Factor in HIV-Associated Neurocognitive Disorder: From the Bench-Top to the Bedside

<https://pubmed.ncbi.nlm.nih.gov/32099373/>

2021 January

^{18}F -FDG brain PET hypometabolism in patients with long COVID

<https://pubmed.ncbi.nlm.nih.gov/33501506/>

Cerebral FDG-PET scanning abnormalities in optimally treated HIV patients

<https://pubmed.ncbi.nlm.nih.gov/20152054/>

2024 January

SARS-CoV-2 Can Infect Dopamine Neurons Causing Senescence

[https://www.cell.com/cell-stem-cell/fulltext/S1934-5909\(23\)00442-3](https://www.cell.com/cell-stem-cell/fulltext/S1934-5909(23)00442-3)

HIV, Tat and dopamine transmission

<https://pubmed.ncbi.nlm.nih.gov/28457951/>

2023 November

Brain fog in long COVID: A glutamatergic hypothesis with astrocyte dysfunction accounting for brain PET glucose hypometabolism

Targeting the Glutamatergic System for the Treatment of HIV-Associated Neurocognitive Disorders

<https://pmc.ncbi.nlm.nih.gov/articles/PMC3661915/>

2023 November

Brain fog in long COVID: A glutamatergic hypothesis with astrocyte dysfunction accounting for brain PET glucose hypometabolism

2022 April

Parkinson's Disease and SARS-CoV-2 Infection: Particularities of Molecular and Cellular Mechanisms Regarding Pathogenesis and Treatment

<https://pmc.ncbi.nlm.nih.gov/articles/PMC9138688/>

LRRK2 kinase inhibition prevents pathological microglial phagocytosis in response to HIV-1 Tat protein

<https://pubmed.ncbi.nlm.nih.gov/23190742/>

2022 October

Endothelial dysfunction in COVID-19: an overview of evidence, biomarkers, mechanisms and potential therapies

<https://www.nature.com/articles/s41401-022-00998-0>

Chronic Exposure to HIV-Derived Protein Tat Impairs Endothelial Function via Indirect Alteration in Fat Mass and Nox1-Mediated Mechanisms in Mice

<https://pmc.ncbi.nlm.nih.gov/articles/PMC8540571/>

HIV Protease Inhibitor Ritonavir Impairs Endothelial Function Via Reduction in Adipose Mass and Endothelial Leptin Receptor-Dependent Increases in NADPH Oxidase 1 (Nox1), C-C Chemokine Receptor Type 5 (CCR5), and Inflammation

<https://pubmed.ncbi.nlm.nih.gov/33003981/>

2024 April

SARS-CoV-2 infects cells lining the blood-retinal barrier and induces a hyperinflammatory immune response in the retina via systemic exposure

<https://pubmed.ncbi.nlm.nih.gov/38598560/>

HIV-1 Tat-mediated apoptosis in human blood-retinal barrier-associated cells

<https://pubmed.ncbi.nlm.nih.gov/24739951/>

2021 March

SARS-CoV-2 in severe COVID-19 induces a TGF- β -dominated chronic immune response that does not target itself

<https://www.nature.com/articles/s41467-021-22210-3>

2024 July

Inflammation in the COVID-19 airway is due to inhibition of CFTR signaling by the SARS-CoV-2 spike protein

<https://www.nature.com/articles/s41598-024-66473-4>

HIV Tat Protein Induces the TGF- β Signaling Pathway and Suppresses the CFTR Biogenesis and Activity by microRNA-Regulated Gene-Silencing Mechanism

<https://faseb.onlinelibrary.wiley.com/doi/abs/10.1096/fasebj.2020.34.s1.00650>

2024 SARS-CoV-2 Impairs Osteoblast Differentiation Through Spike Glycoprotein and Cytokine Dysregulation

<https://www.mdpi.com/1999-4915/17/2/143>

The HIV proteins Tat and Nef promote human bone marrow mesenchymal stem cell senescence and alter osteoblastic differentiation

<https://pubmed.ncbi.nlm.nih.gov/25847297/>

SARS-CoV-2 Infection Inducing Immune Thrombocytopenic Purpura: Case Series

<https://pmc.ncbi.nlm.nih.gov/articles/PMC8238109/>

HIV-1 Tat induced-platelet activation and release of CD154 contribute to HIV-1 associated autoimmune thrombocytopenia

<https://pmc.ncbi.nlm.nih.gov/articles/PMC3050111/>

2021 April

COVID-19 Infection and Corrected QT Interval Prolongation—Collateral Damage From Our Newest Enemy

<https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2779057>

The role of HIV Tat protein in HIV-related cardiovascular diseases

<https://pmc.ncbi.nlm.nih.gov/articles/PMC5941636/>

2024 July

Gastro cases hit 20-year high as parasite spreads disease to toddlers

<https://www.smh.com.au/national/gastro-cases-hit-20-year-high-as-parasite-spreads-disease-to-toddlers-20240702-p5jqjy.html>

HIV-1 Tat Protein Suppresses Cholangiocyte Toll-Like Receptor 4 Expression and Defense against *Cryptosporidium parvum*

<https://pmc.ncbi.nlm.nih.gov/articles/PMC2716168/>

2024 November

Dave Coulier Reveals He Has Stage 3 Non-Hodgkin Lymphoma: 'I'm Going to Be Strong Throughout This' (Exclusive)

<https://people.com/dave-coulier-non-hodgkin-lymphoma-exclusive-8743523>

2023 July

A common allele of HLA is associated with asymptomatic SARS-CoV-2 infection

<https://www.nature.com/articles/s41586-023-06331-x>

Chronic HIV-1 Tat action induces HLA-DR downregulation in B cells: A mechanism for lymphoma immune escape in people living with HIV

<https://pubmed.ncbi.nlm.nih.gov/38285479/>

Alterations in Cellular Gene Expression Due to Co-Infection With Kaposi's Sarcoma-Associated Herpesvirus and SARS-CoV-2: Implications for Disease Severity

<https://onlinelibrary.wiley.com/doi/10.1002/jmv.70149>

HIV-1 Tat Interacts with a Kaposi's Sarcoma-Associated Herpesvirus Reactivation-Upregulated Antiangiogenic Long Noncoding RNA, LINC00313, and Antagonizes Its Function

<https://pmc.ncbi.nlm.nih.gov/articles/PMC7000985/>

Inflammatory Cytokines Synergize with the HIV-1 Tat Protein to Promote Angiogenesis and Kaposi's Sarcoma Via Induction of Basic Fibroblast Growth Factor and the $\alpha_v\beta_3$ Integrin

<https://journals.aai.org/jimmunol/article/163/4/1929/105359/Inflammatory-Cytokines-Synergize-with-the-HIV-1>

HIV-1 Tat enhances Kaposi sarcoma-associated herpesvirus (KSHV) infectivity

<https://ashpublications.org/blood/article/104/3/810/18511/HIV-1-Tat-enhances-Kaposi-sarcoma-associated>

IDIOPATHIC MULTICENTRIC CASTLEMAN DISEASE (IMCD) AS A MANIFESTATION OF POST-COVID-19 INFLAMMATORY SYNDROME

<https://pmc.ncbi.nlm.nih.gov/articles/PMC9548830/>

HIV-associated Multicentric Castleman Disease

<https://pmc.ncbi.nlm.nih.gov/articles/PMC4377294/>

2025 Molecular 'Fingerprint' of Long COVID Found in Children's Blood

<https://respiratory-therapy.com/disorders-diseases/infectious-diseases/coronavirus/molecular-fingerprint-long-covid-found-childrens-blood/>

Oncostatin M promotes excitotoxicity by inhibiting glutamate uptake in astrocytes: implications in HIV-associated neurotoxicity

<https://jneuroinflammation.biomedcentral.com/articles/10.1186/s12974-016-0613-8>

Oncostatin-M is an autocrine growth factor in Kaposi's sarcoma

<https://pubmed.ncbi.nlm.nih.gov/8030759/>

2022 December

COVID-19 can lead to rapid progression of cervical intraepithelial neoplasia by dysregulating the immune system: A hypothesis

<https://www.sciencedirect.com/science/article/pii/S0165037822002923>

2023 April

Kashyap Patel, MD, Sees Link Between COVID-19 and Cancer Progression, Calls for More Biomarker Testing

<https://www.ajmc.com/view/kashyap-patel-md-sees-link-between-covid-19-and-cancer-progression-calls-for-more-biomarker-testing>

The Relationship of Cholangiocarcinoma with Human Immunodeficiency Virus Cholangiopathy and Cytomegalovirus Infection

<https://pmc.ncbi.nlm.nih.gov/articles/PMC7727621/>

Rapidly progressive metastatic cholangiocarcinoma in a postpartum patient with cystic fibrosis: a case report

<https://pmc.ncbi.nlm.nih.gov/articles/PMC7670772/>

HIV-1-related factors interact with p53 to influence cellular processes

<https://pmc.ncbi.nlm.nih.gov/articles/PMC10493029/>

EVIDENCE OF PROTEIN OPERATING MECHANISTICALLY AS HIV'S VPR

2023 November

SARS-CoV-2 and the DNA damage response

<https://pubmed.ncbi.nlm.nih.gov/37948194/>

2022 March

SARS-CoV-2 Proteins Interact with Alpha Synuclein and Induce Lewy Body-like Pathology In Vitro

<https://pmc.ncbi.nlm.nih.gov/articles/PMC8949667/>

HIV-1 Vpr protein impairs lysosome clearance causing SNCA/alpha-synuclein accumulation in neurons

<https://pubmed.ncbi.nlm.nih.gov/33890542/>

2023 June

Dementia with Lewy bodies after COVID-19 infection with catatonia: A case report

<https://onlinelibrary.wiley.com/doi/full/10.1002/pcn5.119>

2022 February

QUINOLINIC ACID IS A BIOMARKER OF COVID-19–ASSOCIATED COGNITIVE IMPAIRMENT

<https://www.croiconference.org/abstract/quinolinic-acid-is-a-biomarker-of-covid-19-associated-cognitive-impairment/>

A pilot investigation of the association between HIV-1 Vpr amino acid sequence diversity and the tryptophan-kynurenine pathway as a potential mechanism for neurocognitive impairment

<https://pmc.ncbi.nlm.nih.gov/articles/PMC10893664/>

2021 October

The SARS-CoV-2 main protease Mpro causes microvascular brain pathology by cleaving NEMO in brain endothelial cells

<https://www.nature.com/articles/s41593-021-00926-1>

EVIDENCE OF PROTEIN OPERATING MECHANISTICALLY AS HIV'S gp120

2020 January

Uncanny similarity of unique inserts in the 2019-nCoV spike protein to HIV-1 gp120 and Gag

<https://www.biorxiv.org/content/10.1101/2020.01.30.927871v1>

2025 January

How a neuroscientist solved the mystery of his own long COVID

<https://www.youcanknowthings.com/how-one-neuroscientist-solved-the-mystery-of-his-own-long-covid-2/>

Anti-neurofascin 155 Antibody-positive Neuropathy in a Human Immunodeficiency Virus-infected Patient

<https://pubmed.ncbi.nlm.nih.gov/37380455/>

2023 August

Endothelial Glycocalyx Injury in SARS-CoV-2 Infection: Molecular Mechanisms and Potential Targeted Therapy

<https://pubmed.ncbi.nlm.nih.gov/37674786/>

High salt intake and HIV infection on endothelial glycocalyx shedding in salt-sensitive hypertension

<https://www.frontiersin.org/journals/cell-and-developmental-biology/articles/10.3389/fcell.2024.1395885/full>

EVIDENCE OF PROTEIN OPERATING MECHANISTICALLY AS HIV'S Vpu

2025 March

HIV-1 Vpu and SARS-CoV-2 ORF3a proteins disrupt STING-mediated activation of antiviral NF- κ B signaling

https://www.science.org/doi/10.1126/scisignal.add6593?utm_campaign=ScienceMagazine&utm_source=twitter&utm_medium=ownedSocial

2023 March

The SARS-CoV-2 main protease induces neurotoxic TDP-43 cleavage and aggregates

<https://www.nature.com/articles/s41392-023-01386-8>

HIV-1 Vpu induces neurotoxicity by promoting Caspase 3-dependent cleavage of TDP-43

<https://www.embopress.org/doi/full/10.1038/s44319-024-00238-y?af=R>