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Hypotheses and facts for genetic factors related to severe COVID-19

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Abstract

Genomewide association analysis allows the identification of potential candidate genes involved in the development of severe coronavirus disease-2019 (COVID-19). Hence, it seems that genetics matters here, as well. Nevertheless, the virus's nature, including its RNA structure, determines the rate of mutations leading to new viral strains with all epidemiological and clinical consequences. Given these observations, we herein

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Genetic Factors May Influence COVID-19 Susceptibility ...

https://consultqd.clevelandclinic.org/genetic-factors-may-influence-covid-19...

Jul 16, 2020 · The new Cleveland Clinic study has identified **genetic factors** that may influence susceptibility to COVID-19, which could guide personalized treatment. COVID-19 a serious threat to certain individuals. While the majority of confirmed COVID-19 cases result in mild symptoms, the virus does pose a serious threat to certain individuals.

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Scientists discover genetic and immunologic underpinnings ...

https://www.nih.gov/news-events/news-releases/...

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New findings by scientists at the National Institutes of Health and their collaborators help explain why some people with COVID-19 develop severe disease. The findings also may provide the first **molecular explanation** for why more men than women die from COVID-19. The researchers found that more than 10% of people who develop severe COVID-19 have misguided antibodies—autoantibodies—that attack the immune system rather than the virus that causes the disease. Another 3.5% or more of people who ...

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The major genetic risk factor for severe COVID-19 is ...

https://www.nature.com/articles/s41586-020-2818-3

Oct 26, 2020 · The **genetic** variants that are most associated with **severe** COVID-19 on chromosome 3 (45,859,651–45,909,024 (hg19)) are all in high linkage disequilibrium (LD)—that is, they are all strongly ...

Cited by: 113 **Author:** Hugo Zeberg, Hugo Zeberg, Svante Pääbo, ...

Publish Year: 2020

[PDF] The major genetic risk factor for severe COVID-19 is ...

https://www.biorxiv.org/content/10.1101/2020.07.03.186296v1.full.pdf

Jul 03, 2020 · These risk **factors**, however, do not fully explain why some have no or mild symptoms while others become seriously ill. Thus, **genetic** risk **factors** are being investigated. An early study (Ellinghaus et al. 2020) identified two genomic regions associated with **severe** COVID-19: one region on chromosome 3 containing six genes and one region

Cited by: 15 **Author:** Hugo Zeberg, Hugo Zeberg, Svante Pääbo, ...

Publish Year: 2020

Key Genes Related to Severe COVID-19 Infection Identified ...

https://www.the-scientist.com/news-opinion/key...

Dec 14, 2020 · "A chunk of the answer is in our genes," but "it's unlikely that a single element is fully responsible for the development of **severe** COVID-19," she tells the Post. "It's more likely to be a combination of **factors**," which may include **genetics** as well as ...

Author: Max Kozlov

New insights into genetic susceptibility of COVID-19: an ...

https://bmcmedicine.biomedcentral.com/articles/10.1186/s12916-020-01673-z

Jul 15, 2020 · We further discussed that polymorphisms in **ACE2** or **TMPRSS2** could guide effective treatments (i.e., hydroxychloroquine and camostat) for COVID-19. This study suggested that ACE2 or TMPRSS2 DNA polymorphisms were likely associated with genetic susceptibility of COVID-19, which calls for a human genetics initiative for fighting the COVID-19 pandemic.

Major Genetic Risk Factor for Severe COVID-19 Is Inherited ...

https://scitechdaily.com/major-genetic-risk-factor...

Oct 05, 2020 · By Karolinska Institutet October 5, 2020. A study published in Nature shows that a segment of DNA that causes their carriers to have an up to three times higher risk of developing **severe COVID-19** is inherited from Neanderthals. The study was conducted by researchers at Karolinska Institutet and Max Planck Institute for Evolutionary Anthropology. COVID-19 affects some people ...

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Genetic variations linked to COVID-19 severity

https://www.news-medical.net/news/20200603/Genetic...

Variations in The Severity of Co... | Using GWAS to Identify Geneti... | Variations at

Currently, the outbreak is known to have caused over 6.39 million cases and taken more than 383,000 lives the world over. However, huge gaps remain in the scientific understanding of how the virus causes a spectrum of disease ranging from asymptomatic to lethal respiratory failure. At present, the incubation period of the virus is thought to be around 5 days, and almost 98% of cases become symptomatic within 11-12 days of infection. The precise percentage of asymptomatic infection is unknown, with estimates r...

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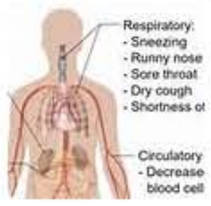

The 2019 novel coronavirus, 2019-nCoV, officially named severe acute respiratory syndrome coronavirus 2, SARS-CoV-2, is a positive-sense, single-stranded RNA coronavirus. The virus is the causative agent of coronavirus disease 2019, COVID-19, and is contagious through human-to-human transmission. The virus is thought to have a zoonotic origin, and comparisons of the genetic sequences of this virus and other virus samples have shown similarities to SARS-CoV and bat coronaviruses which makes an ultimate origin in bats likely, although an intermediate reservoir such as a pangolin is thought to be involved.

Wikipedia

Help & information

US updates: Centers for Disease Control and Prevention (CDC)

Global updates: World Health Organization (WHO)

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https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7539923

Jul 24, 2020 · To this end, an international research consortium on **genetic factors** in the human genome has been organized. 29 The most relevant work conducted so far has used techniques that investigate...

Author: Salmo Raskin **Publish Year:** 2020

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https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8047200

Apr 01, 2021 · In **severe COVID-19** patients, an increase of IL-6 levels has been observed and **related to the disease's** poor **prognosis** . Several gene variants in IL6 (HGNC:6018) with differential cytokine...

Cited by: 1 **Author:** Ingrid Fricke-Galindo, Ramcés Falfán-Valen...

Publish Year: 2021

The major genetic risk factor for severe COVID-19 does not ...

https://www.nature.com/articles/s41598-021-91711-4

Jun 11, 2021 · The COVID-19 Host **Genetics** Initiative a global initiative to elucidate the role of host **genetic factors** in susceptibility and severity of the SARS-CoV-2 virus pandemic. Eur. J.

The major genetic risk factor for severe COVID-19 is ...

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