

FRONTEO ~COMBAT COVID-19~

⑧探索結果（4） JAKとその周辺における探索

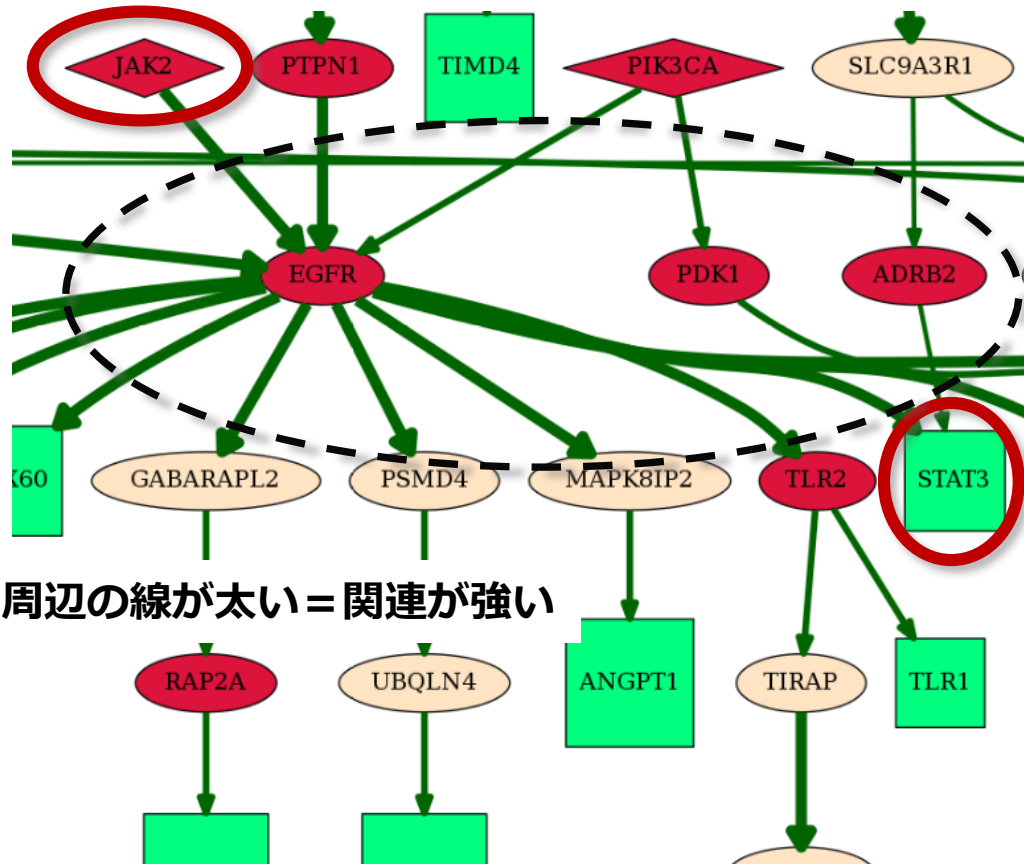
FRONTEO AI

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MAY. 2020

JAKの下流における発見

IL6 (トシリズマブ) の下流



▼カルベジロールはコロナウイルスに効果があるという論文

ORIGINAL ARTICLE

Analysis of therapeutic targets for SARS-CoV-2 and discovery of potential drugs by computational methods

Canrong Wu^{a,†}, Yang Liu^{b,†}, Yueying Yang^{b,†}, Peng Zhang^b, Wu Zhong^c, Yali Wang^b, Qiqi Wang^b, Yang Xu^b, Mingxue Li^b, Xingzhou Li^{c,✉}, Mengzhu Zheng^{a,✉}, Lixia Chen^{b,✉}, Hua Li^{a,b,✉}

Acta Pharmaceutica Sinica B
Available online 27 February 2020
In Press, Corrected Proof

“ADRB2:Carvedilol is identified one of potential drug for anti-coronavirus”

- ① JAK~STAT3は現在コロナウイルス関連で検証が進んでいる
- ② 周辺にあるADRB2は高血圧薬カルベジロールのターゲット。高血圧患者が新型コロナウイルス感染症の重篤化する可能性が高いのではないかという見方もされている。

ADRB2と同じく高血圧薬のターゲットとなっているACE2について

▼高血圧薬でACE2の発現を抑制したらコロナウイルスを抑制できるのではないかという内容。

THE LANCET
Respiratory Medicine

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CORRESPONDENCE | VOLUME 8, ISSUE 4, PE21, APRIL 01, 2020

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Are patients with hypertension and diabetes mellitus at increased risk for COVID-19 infection?

Lei Fang • George Karakiulakis • Michael Roth ✉

Published: March 11, 2020 • DOI: [https://doi.org/10.1016/S2213-2600\(20\)30116-8](https://doi.org/10.1016/S2213-2600(20)30116-8)

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The most distinctive comorbidities of 32 non-survivors from a group of 52 intensive care unit patients with novel coronavirus disease 2019 (COVID-19) in the study by Xiaobo Yang and colleagues¹ were cerebrovascular diseases (22%) and diabetes (22%). Another study² included 1099 patients with confirmed COVID-19, of whom 173 had severe disease with comorbidities of hypertension (23.7%), diabetes mellitus (16.2%), coronary heart diseases (5.8%), and cerebrovascular disease (2.3%). In a third study,³ of 140 patients who were admitted to hospital with COVID-19, 30% had hypertension and 12% had diabetes. Notably, the most frequent comorbidities reported in these three studies of patients with COVID-19 are often treated with angiotensin-converting enzyme (ACE) inhibitors; however, treatment was not assessed in either study.

Human pathogenic coronaviruses (severe acute respiratory syndrome coronavirus [SARS-CoV] and SARS-CoV-2) bind to their target cells through angiotensin-converting enzyme 2 (ACE2), which is expressed by epithelial cells of the lung, intestine, kidney, and blood vessels.⁴ The expression of ACE2 is substantially increased in patients with type 1 or type 2 diabetes, who are treated with ACE inhibitors and angiotensin II type-1 receptor blockers (ARBs).⁴ Hypertension is also treated with ACE inhibitors and ARBs, which results in an upregulation of ACE2.⁵ ACE2 can also be increased by thiazolidinediones and ibuprofen. These data suggest that ACE2 expression is increased in diabetes and treatment with ACE inhibitors and ARBs increases ACE2 expression. Consequently, the increased expression of ACE2 would facilitate infection with COVID-19. We therefore hypothesise that diabetes and hypertension treatment with ACE2-stimulating drugs increases the risk of developing severe and fatal COVID-19.

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Feedback

TMPRSS2とは

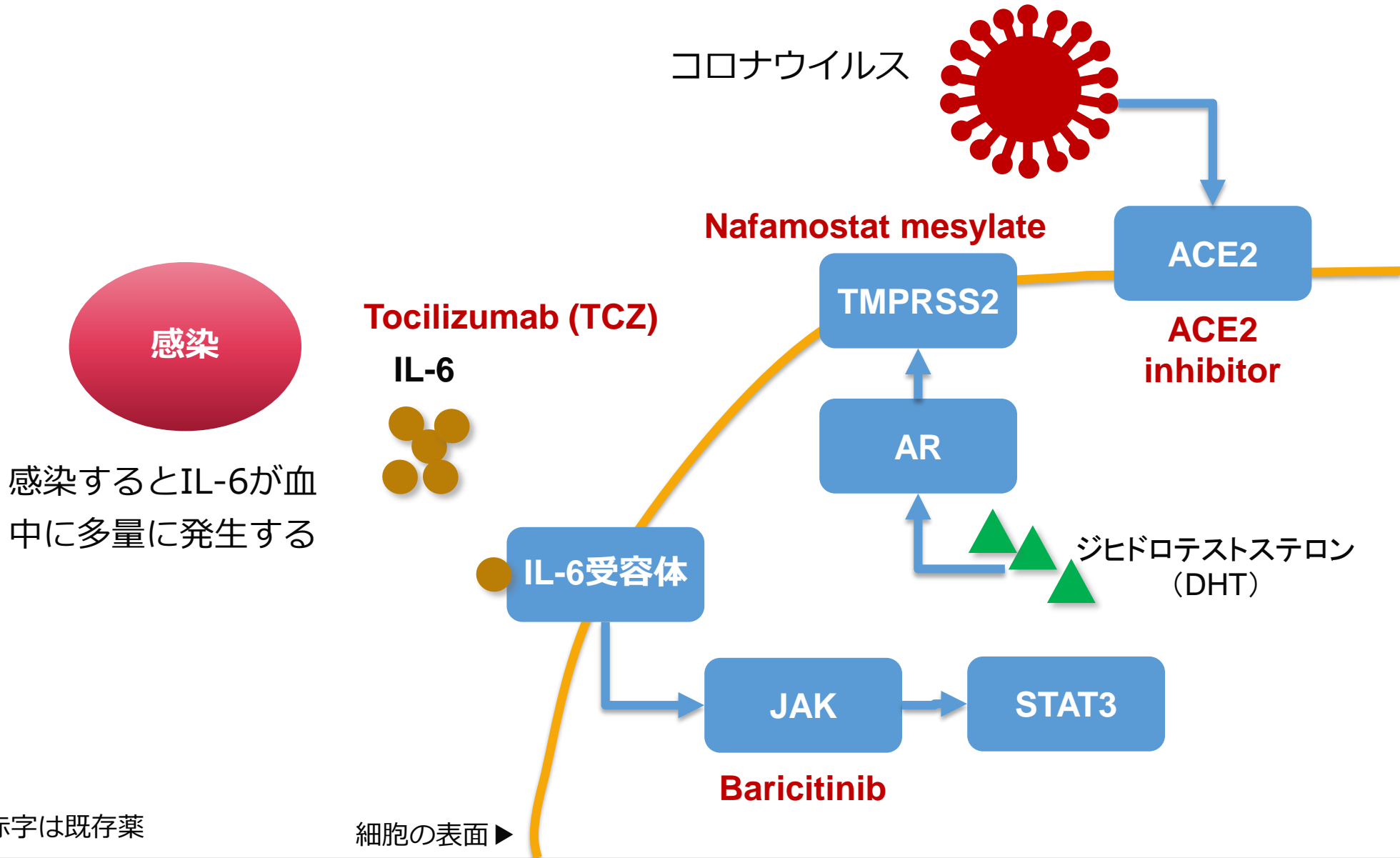
- ACE2と新型コロナウイルスの結合を促進する
- 前立腺がんの主要遺伝子
- Androgen Receptorでコントロールされる

▼ 「前立せんがんの患者は、COVID-19に感染しにくいのか？」という研究もされている

Impact of anti-androgenic therapies on COVID-19: an observational study in male population from a COVID-19 regional centre of Lombardy (Italy)

Massimo Lazzeri¹, Elena Azzolini², Nicolò Maria Buffi^{1, 3}, Vittorio Fasulo¹, Francesco Persico¹, Alberto Saita¹, Rodolfo Hurle¹, Giovanni Lughezzani^{1, 3}, Rosanna Asselta^{3, 4}, Stefano Duga^{3, 4}, Giorgio Guazzoni^{1, 3} and Paolo Casale¹

“Our findings showed that only 4.22% of the overall population received 5ARI anti-androgen therapy, a percentage, which revealed to be significantly lower ($P < 0.0001$) than what observed in Italian men aged more than 40 years (14.97%)”



※赤字は既存薬

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～COMBAT COVID-19～

⑨探索結果 (5) SARSとCOVID-19の差



この資料は下記により作成されました。

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