Press Release

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広島大学関係報道機関
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（新聞、雑誌）：2017 年 5 月 19 日(金)付朝刊以降

広島大学

2 9　5　18

劇症肝炎、慢性腎臓病に対する新規治療薬の開発
- 新規化合物 MA-35 は劇症肝炎や腎臓線維化を軽減する -

Mitochonic acid 35 (MA-35)

ATP

TNF- 1 TGF- 1 2

MA-35 TNF-

TGF- 1 MA-35

TNF-

MA-35 TGF- 1

Scientific

Reports

[3]

1

Mitochonic acid 35 (MA-35)
2 3

400

[4]

TGF- [1] TGF- [1]
TGF- [1]

[5] ATP [6] [7]

MA-5
ATP

TNF- TGF- [1] MA-35
MA-35 TNF-
2
MA-35
3 MA-35 TNF-
IKK [8]
TGF- [1]
Smad3 [9]
4
MA-35

TNF- TGF- 1

MA-35 5
MA-35 2014-65688 MA-35

1 TNF- tumor necrosis factor- -
T

2 TGF- 1 transforming growth factor- 1 - 1

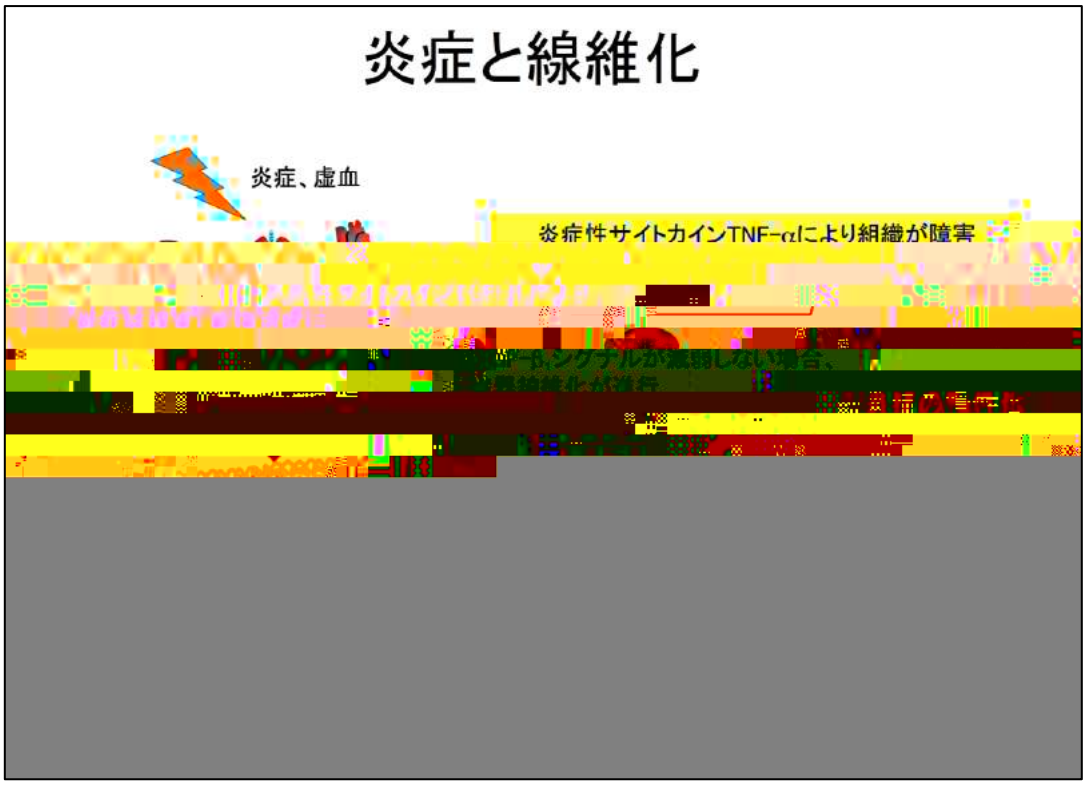
TGF- 1
3

4
3
5
6 ATP adenosine triphosphate 3

ATP
7

8 IKK (I B kinase) TNF-

9 Smad3 TGF-



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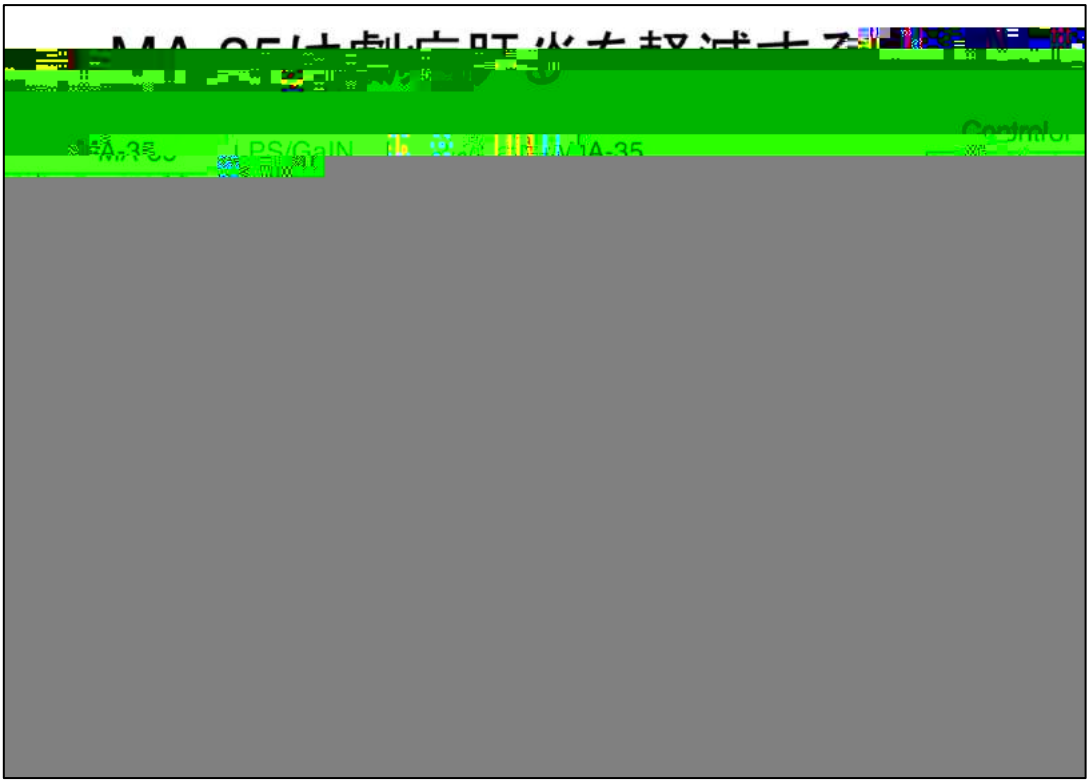
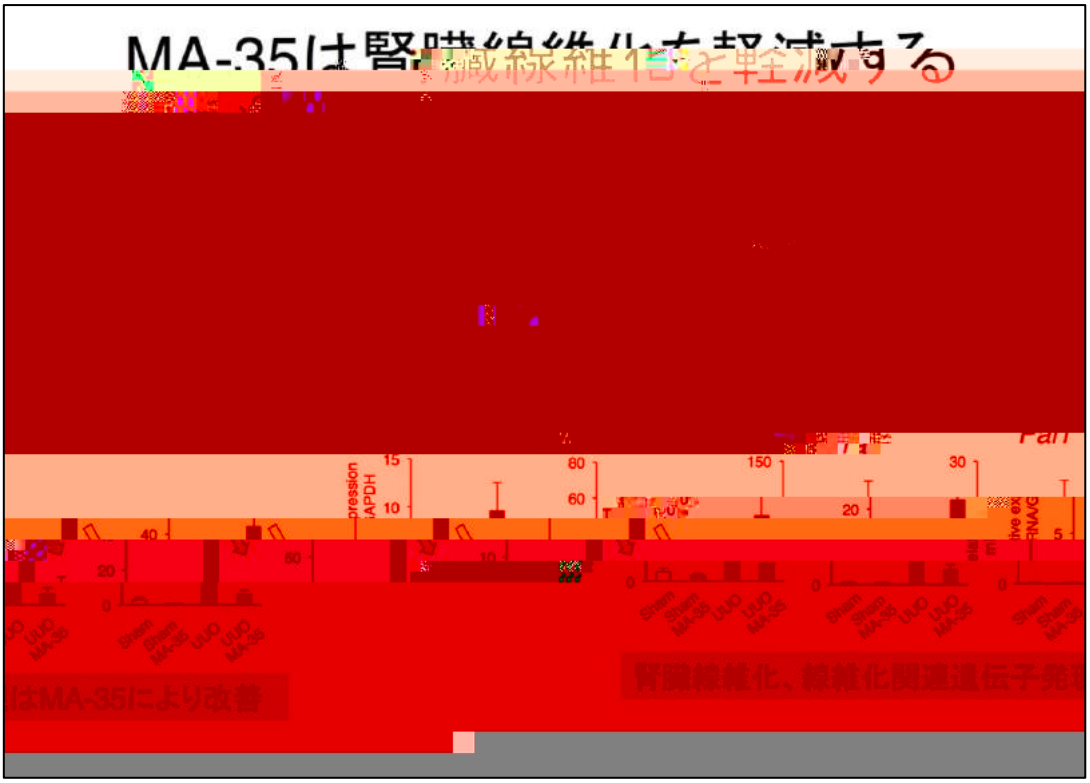


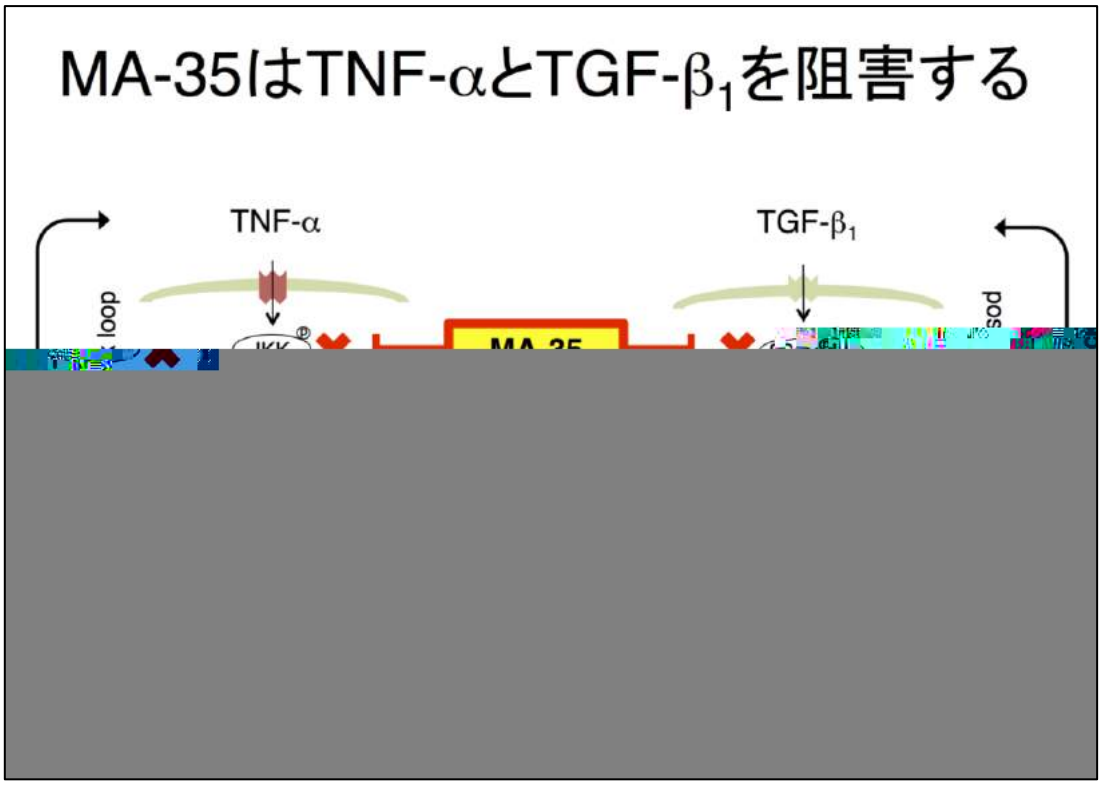
2　MA-35

MA-35　　MA-35



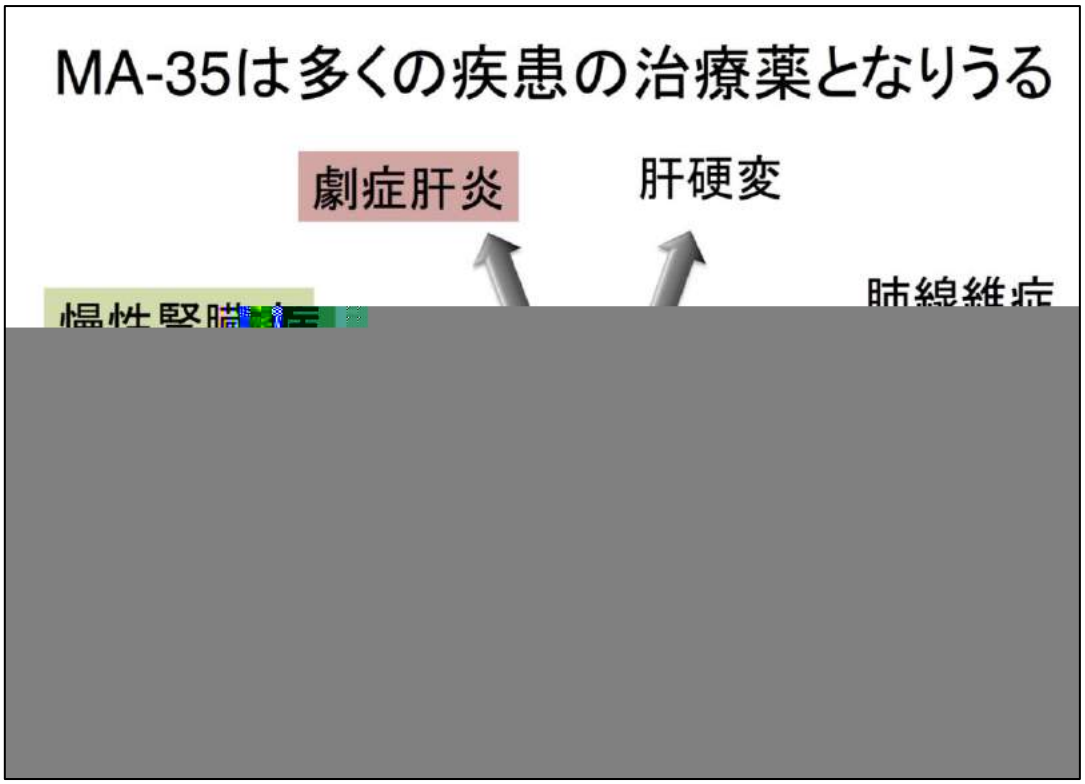
3　MA-35

MA-35　　MA-35



4　MA-35

MA-35　TNF-　/IKK　　MA-35　TGF-$_1$/Smad3



5　MA-35

A novel indole compound MA-35 attenuates renal fibrosis by inhibiting both TNF-□ and TGF-□$_1$ pathways

Hisato Shima, Kensuke Sasaki, Takehiro Suzuki, Chikahisa Mukawa, Ten Obara, Yuki Oba, Akihiro Matsuo, Takayasu Kobayashi, Eikan Mishima, Shun Watanabe, Yasutoshi Akiyama, Koichi Kikuchi, Tetsuro Matsuhashi, Yoshitsugu Oikawa, Fumika Nanto, Yukako Akiyama, Hsin-Jung Ho, Chitose Suzuki, Daisuke Saigusa, Atsushi Masamune, Yoshihisa Tomioka, Takao Masaki, Sadayoshi Ito, Ken-ichiro Hayashi and *Takaaki Abe
(*corresponding author)(Scientific Reports　　)

MA-35　TNF-　　TGF-$_1$

*　　(*　　)

Scientific Reports

Mitochonic Acid 5 (MA-5), a Derivative of the Plant Hormone Indole-3-Acetic Acid, Improves Survival of Fibroblasts from Patients with Mitochondrial Diseases.
Tohoku J Exp Med. **236**: 225-232, 2015

MA-5

Mitochonic acid MA-5 binds to mitochondria and ameliorates renal tubular and cardiac myocyte damages
J Am Soc Nephrol. **27**: 1925-32, 2016
Mitochonic acid/ MA-5

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