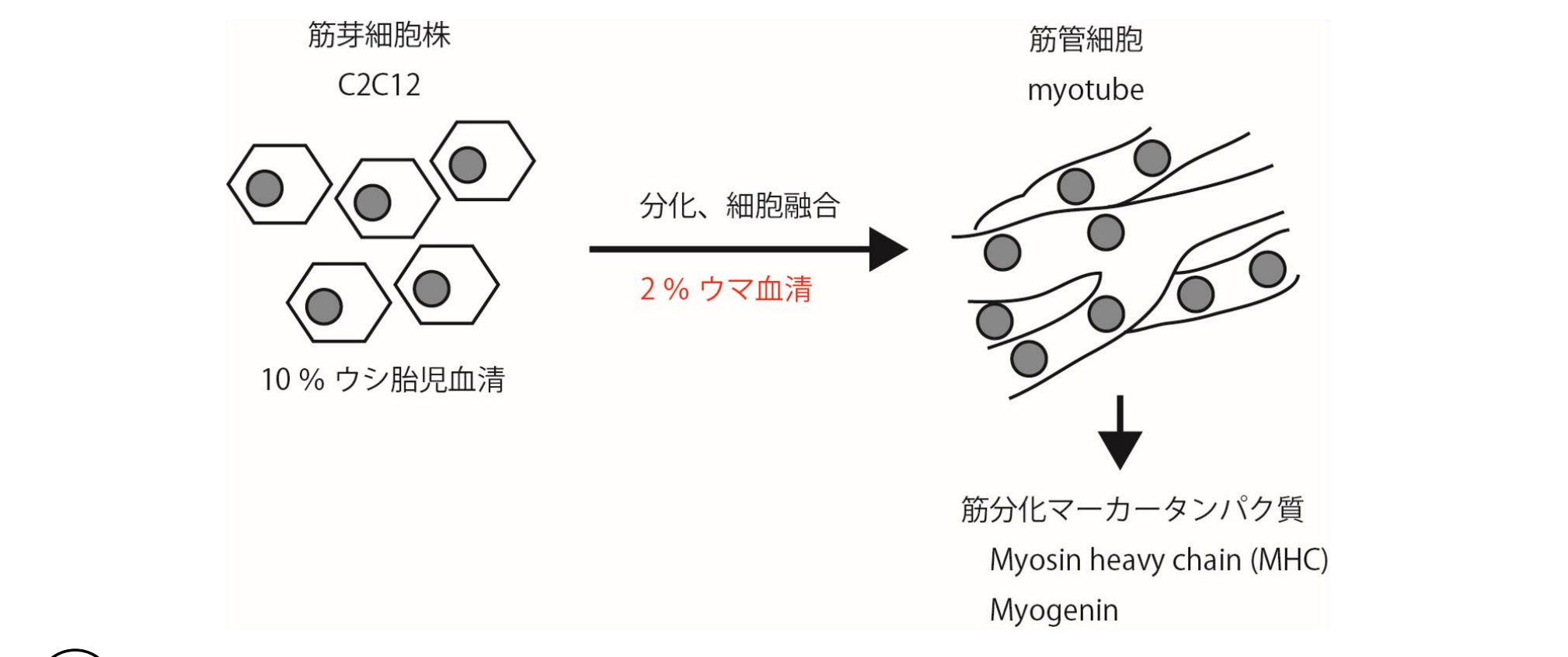
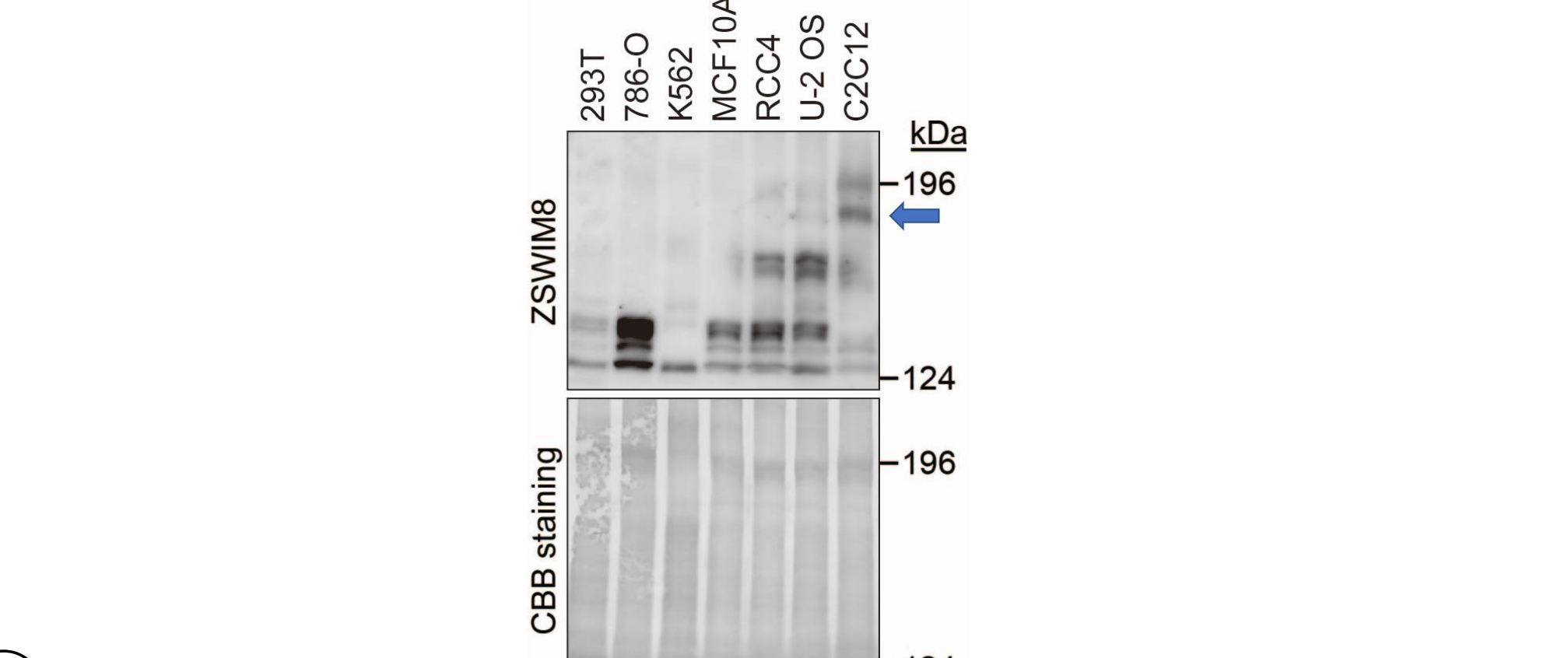
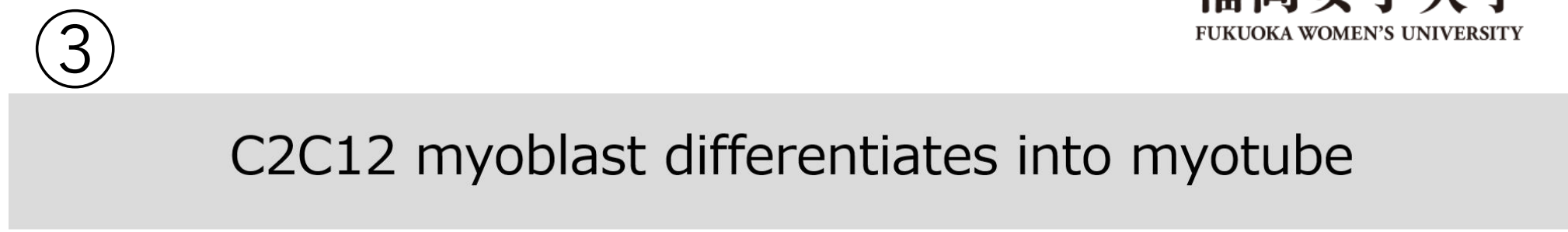
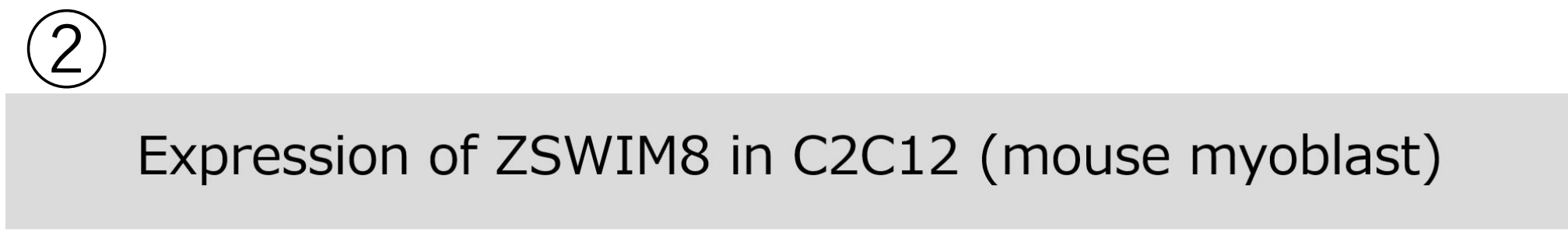
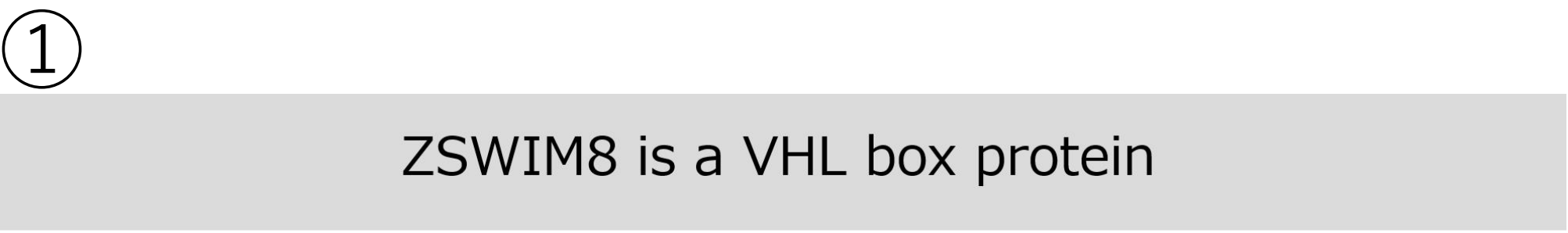


Cul2-binding protein ZSWIM8 partly prevents C2C12 myoblast differentiation

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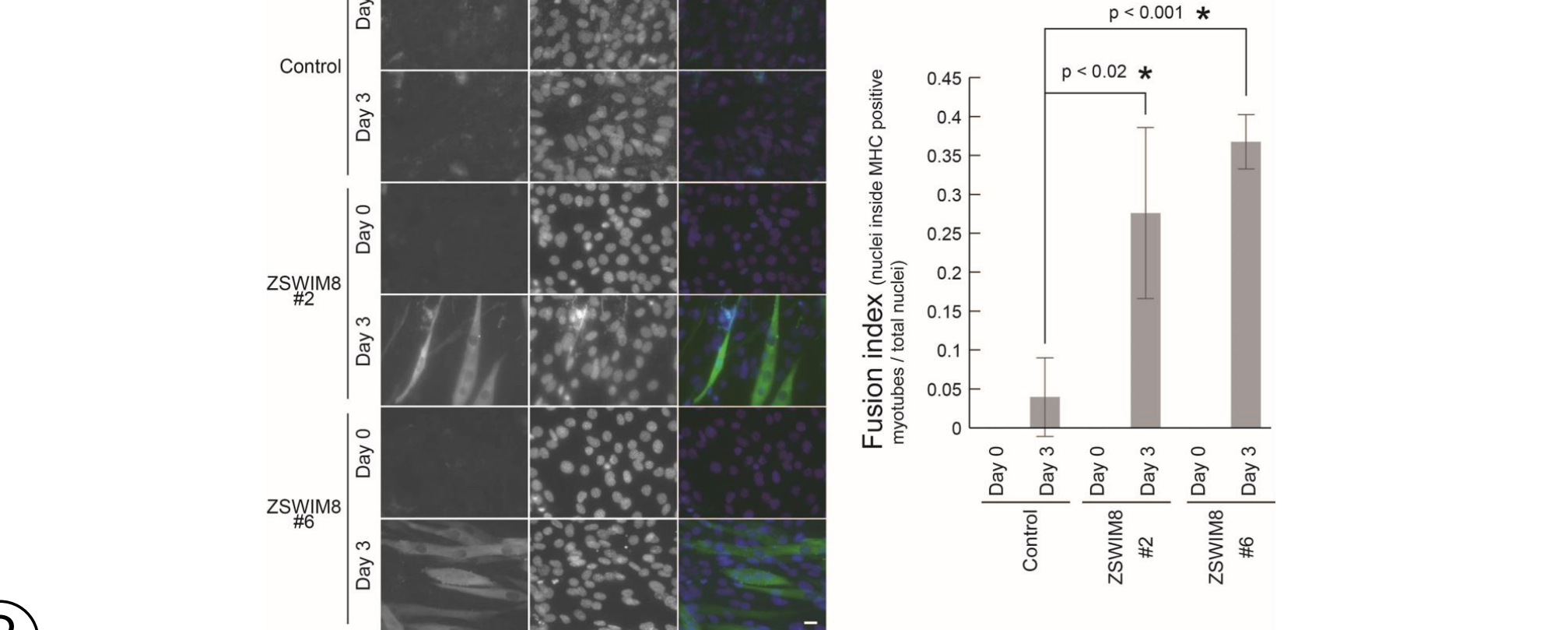


④

1. C2C12 differentiation induces ZSWIM8
2. ZSWIM8 knockdown accelerates differentiation

5) Accelerated myotube formation with ZSWIM8 knockdown

⑥ EBAX-1 is a homolog of ZSWIM8



EBAX-1 is

1. enriched in the developing nervous system.
2. critical for anterior ventral microtubule (AVM) axon guidance.

Domain A : several conserved regions

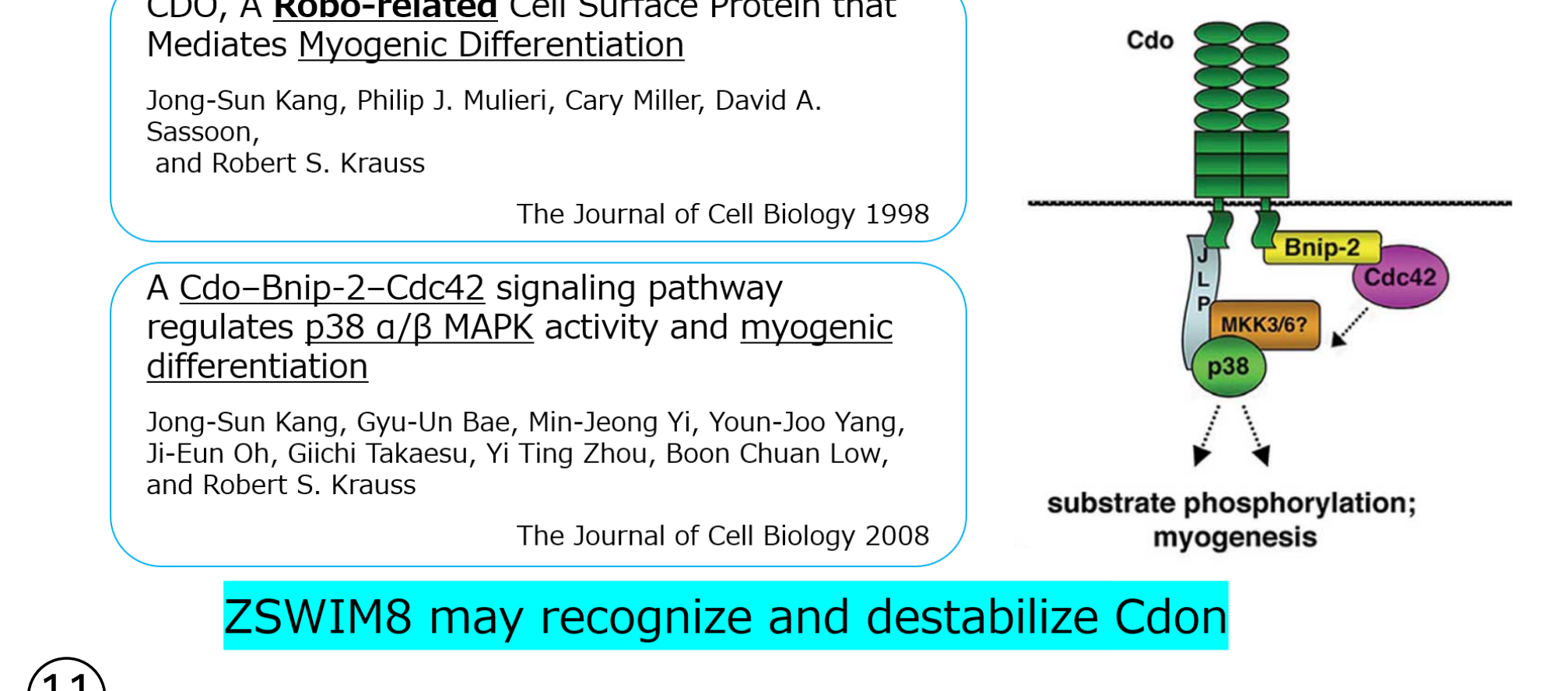
Zhaoping Wane et al. Neuron 2013

⑦ ZSWIM8 destabilizes mutant Robo3(I66L)

Cdon (CDO): CAM-related/**d**own regulated by **onc**ogenes

9 Zhiping Wang et al, Neuron 2013

Cdon complex includes ZSWIM8



3FLAG-ZSWIM8: - - + +

Differentiation (day): 0 1 2 0 1 2 0 1 2

Cdon-N: 196, 124, 88, 64, 47, 34, 27, 20, 16

Cdon-C: 196, 124, 88, 64, 47, 34, 27, 20, 16

Bnip-2: 64, 47, 34, 27, 20, 16

JLP: 196, 124, 88, 64, 47, 34, 27, 20, 16

FLAG: 196, 124, 88, 64, 47, 34, 27, 20, 16

Cul2: 196, 124, 88, 64, 47, 34, 27, 20, 16

Ponceau S staining: 196, 124, 88, 64, 47, 34, 27, 20, 16

substrate phosphorylation; myogenesis

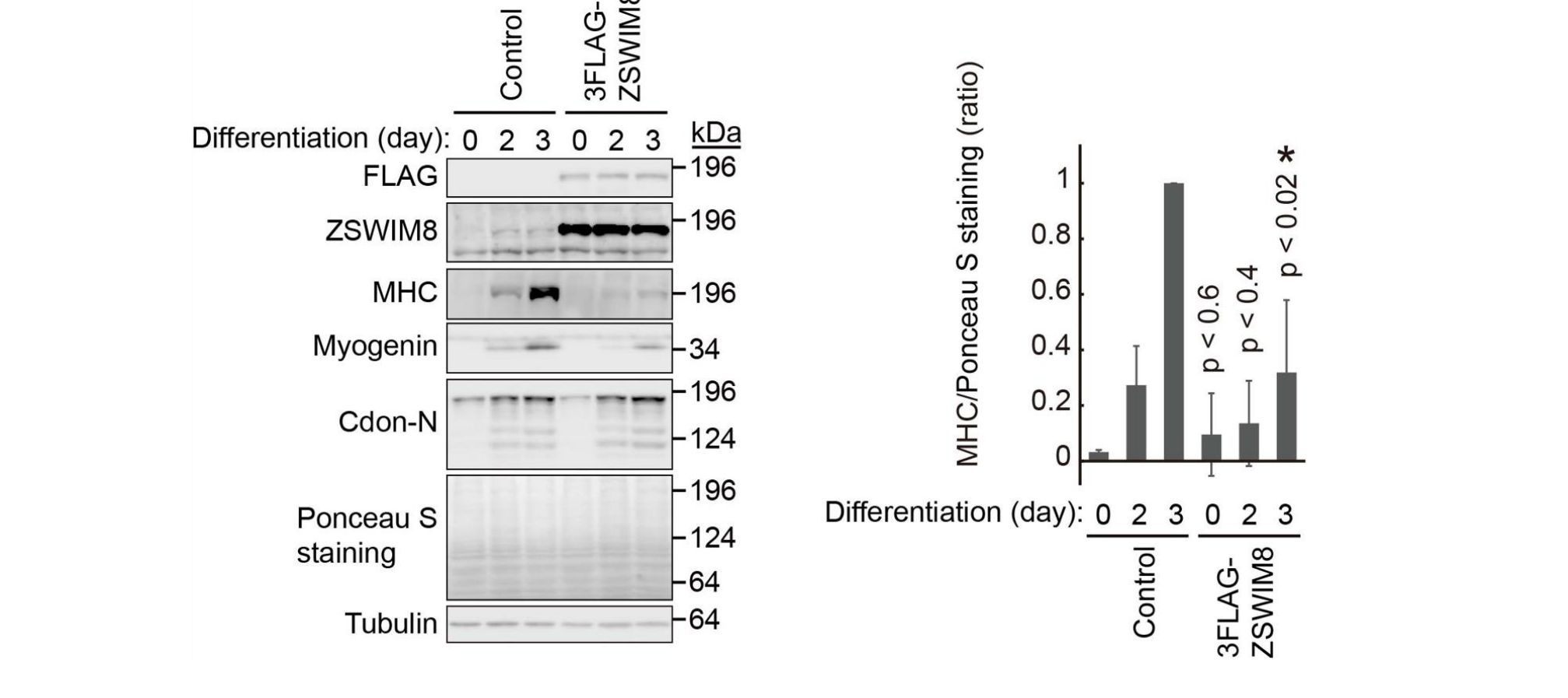
Jong-Sun Kang et al., The Journal of Cell Biology 2008, modified

10 Zhiping Wang et al, Neuron 2013

Cdon complex includes ZSWIM8

11 Prevention of C2C12 differentiation by ZSWIM8 overexpression

12 Co-localization of ZSWIM8 and Cdon



C2C12 cell

FLAG (ZSWiM8)

Cdon-N (Cdon)

DAPI

Merge

0 day

1 days

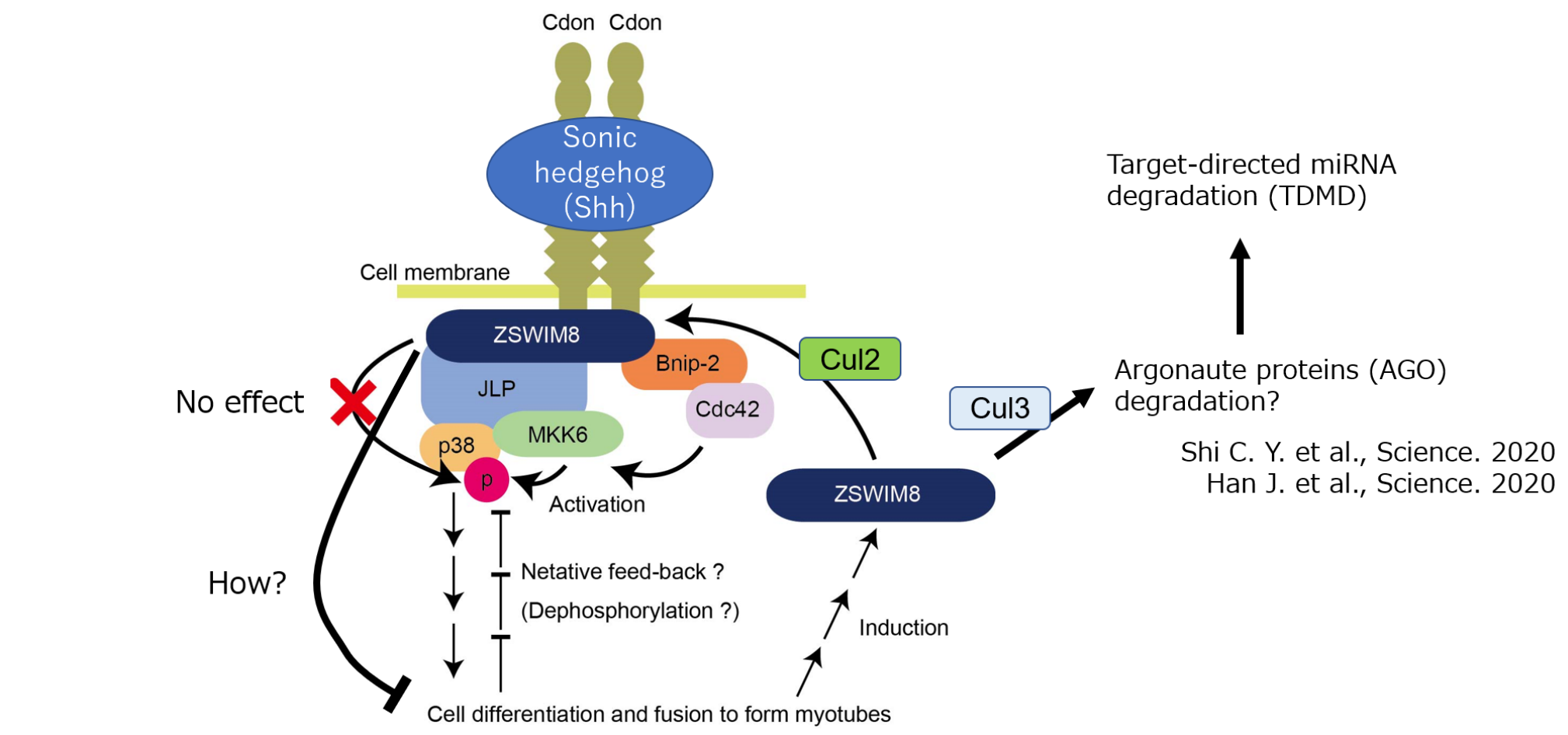
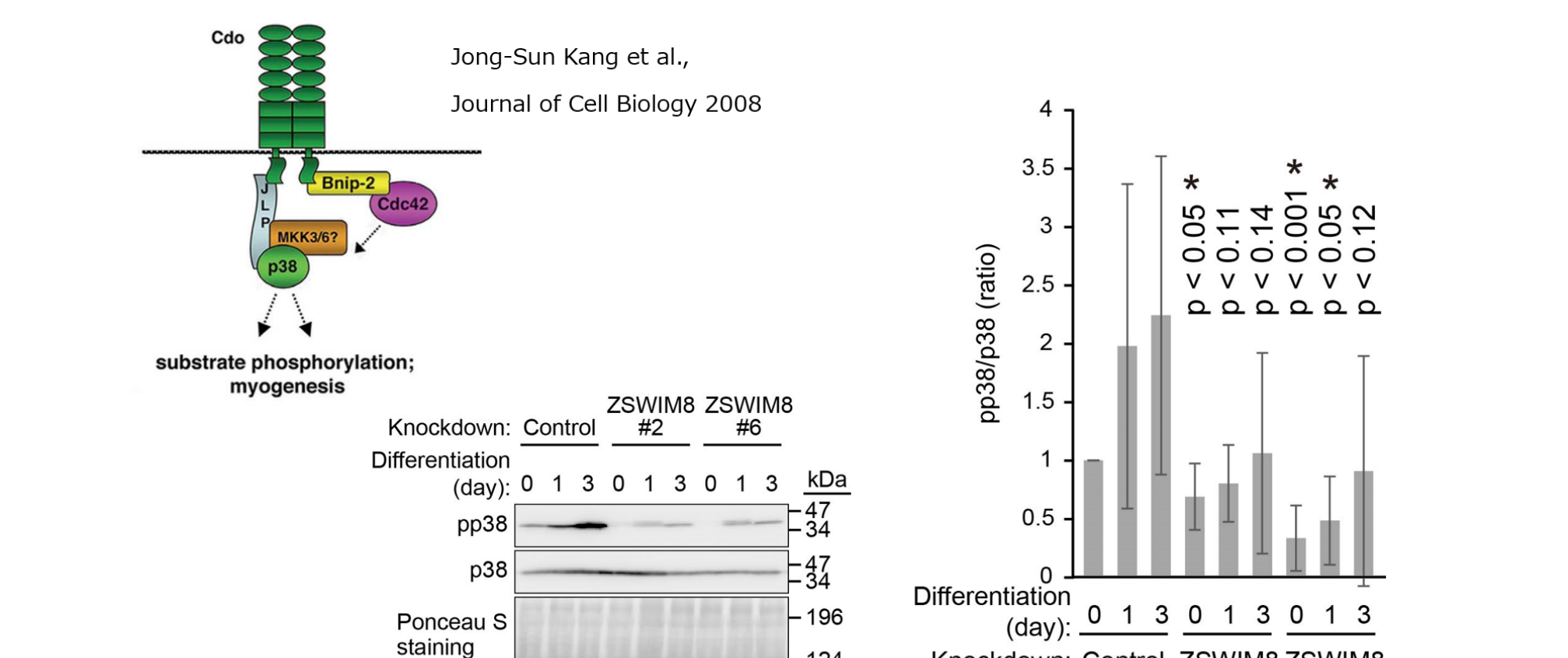
Colocalization-positive cells (%)

n=44

⑬ ZSWIM8 does not affect protein stabilities of Cdon, JLP, and Bnip-2

⑭ No effect on p38α/β MAPK by ZSWIM8

⑮ ZSWIM8 is a myogenic protein that partly prevents C2C12 differentiation



Scientific Reports 11, 20880 (2021).