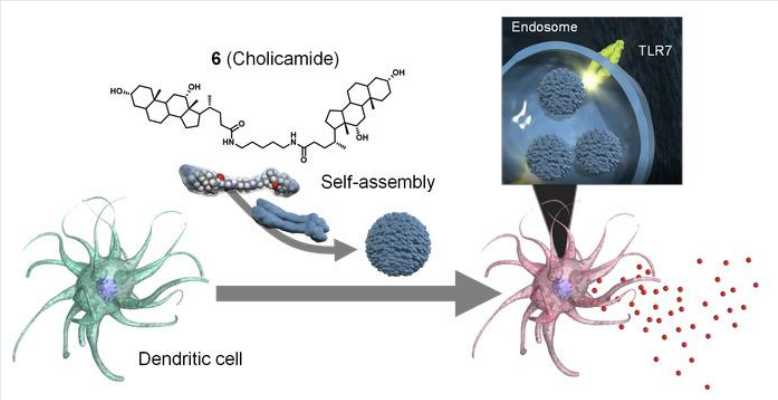
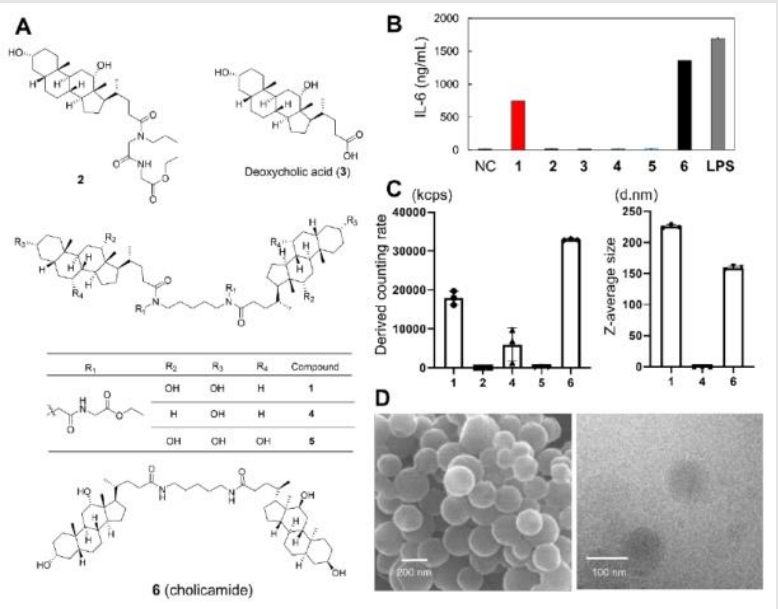
生理活性小分子の新しい世界を切り拓く
ケミカルバイオロジー　上杉研究室

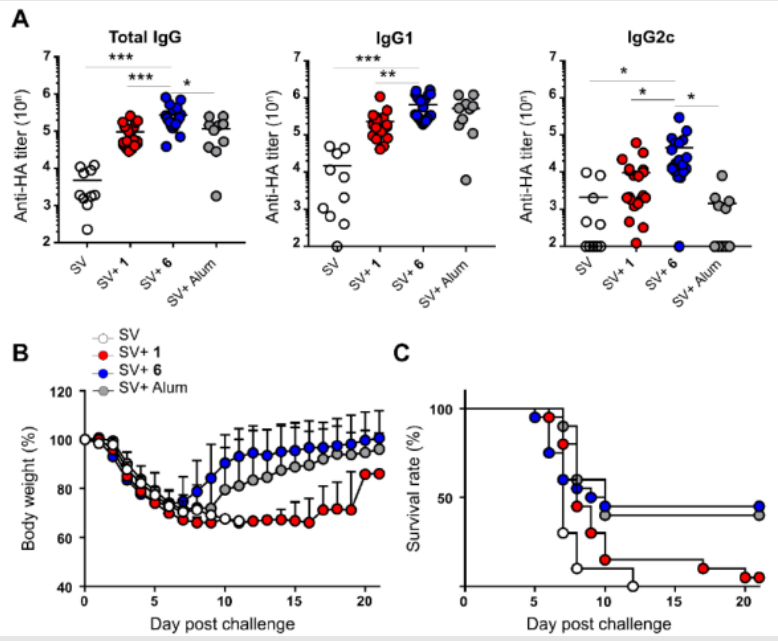
アジュバントとして機能する自己集合性分子の発見

Angew. Chem. Int. Ed. 2020, in press





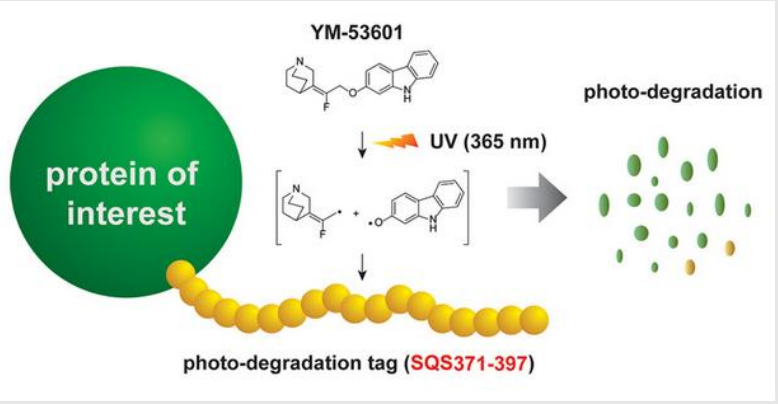
(A) Chemical structures of molecules 1-6.
(B) Effects of molecules 1-6 on the IL-6 production of RAW246.7.
(C) Derived counting rate of molecules 1-6 and Z-average sizes of molecules 1, 4 and 6.
(D) FE-SEM (left) and cryo-TEM (right) images of molecule 6 particles.

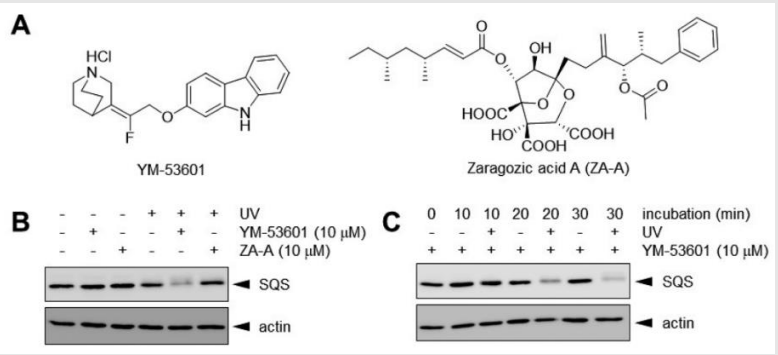


(A) Anti-HA IgG analysis. C57BL/6 mice were immunized twice (day 0 and day 14) with influenza split vaccine simultaneously with molecules 1 (100 μg/head), 6 (100 μg/head), or Alum (500 μg/head).
(B-C) Body weights and survival rates of the mice challenged with PR8. After immunized with molecule 1, 6, or Alum for four weeks, the mice were challenged with PR8 (30LD50).
(A-C) Each dot represents an individual mouse (n = 10 for SV and SV+Alum groups, and n = 20 for SV+1 and SV+6 groups) in two independent experiments.

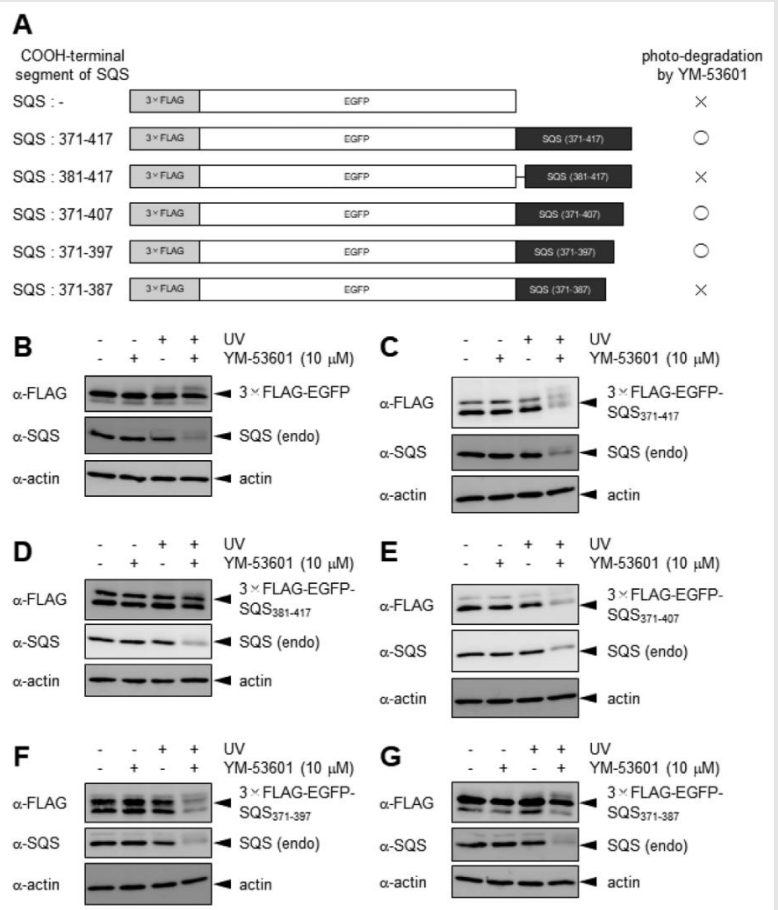
低分子依存性光分解ペプチドの発見

J. Am. Chem. Soc. 2020, *142*, 1142–1146.





(A) Chemical structures of YM-53601 and zaragozic acid A (ZA-A).
(B) Effects of YM-53601 and UV irradiation on the protein levels of SQS. HEK293 cells were pretreated with YM-53601 or ZA-A for 1 h and the samples were then irradiated with UV ligth on ice for 30 min.
(C) Time-course experiments. HEK293 cells were pretreated with 10 μM YM-53601 for 1 h.



(A) Schematic representation of the EGFP−SQS fusion proteins. HEK293 cells were transfected with (B) 3×FLAG-EGFP, (C) 3×FLAG-EGFP-SQS371−417, (D) 3×FLAG-EGFP-SQS381−417, (E) 3×FLAG-EGFP-SQS371−407, (F) 3×FLAG-EGFP-SQS371−397, (G) 3×FLAG-EGFP-SQS371−387. After 24 h, the cells were treated with DMSO or 10 μM YM-53601 for 1 h and then irradiated with UV on ice for 30 min. The lysates were immunoblotted with the indicated antibodies.