Publication List

Original Paper

1) Jizhi Ni, Youhei Sohma,* Motomu Kanai,* Scandium(III) triflate-promoted serine/threonine-selective peptide bond cleavage. ***Chem. Commun.*** in press (2017). DOI: 10.1039/c6cc10300f
2) Yohei Seki, Takashi Ishiyama, Daisuke Sasaki, Junpei Abe, Youhei Sohma, Kounosuke Oisaki, Motomu Kanai, Transition metal-free tryptophan-selective bioconjugation of proteins, ***J. Am. Chem. Soc.*** 138, 10798–10801 (2016).
3) Atsuhiko Taniguchi, Yusuke Shimizu, Kounosuke Oisaki, Youhei Sohma,* Motomu Kanai,* Switchable photooxygenation catalysts that sense higher-order amyloid structures. ***Nature Chem.*** 8, 974–982 (2016).
4) Ryuto Kino, Takushi Araya, Tadamasa Arai, Youhei Sohma,* Motomu Kanai,* Covalent modifier-type aggregation inhibitor of amyloid-β based on a cyclo-KLVFF motif. ***Bioorg. Med. Chem. Lett.*** 25, 2972–2975 (2015).
5) Kiyomichi Shinoda, Youhei Sohma,* Motomu Kanai,* Synthesis of chemically-tethered amyloid-β segment trimer possessing amyloidogenic properties. ***Bioorg. Med. Chem. Lett.*** 25, 2976–2979 (2015).
6) Tadamasa Arai, Daisuke Sasaki, Takushi Araya, Takeshi Sato, Youhei Sohma,* Motomu Kanai,* A cyclic KLVFF-derived peptide aggregation inhibitor induces the formation of less toxic off-pathway amyloid-β oligomers. ***ChemBioChem*** 15, 2577–2583 (2014).
7) Tadamasa Arai, Takushi Araya, Daisuke Sasaki, Atsuhiko Taniguchi, Takeshi Sato, Youhei Sohma,* Motomu Kanai,* Rational design and identification of non-peptidic aggregation inhibitor of amyloid-β based on a pharmacophore motif obtained from *cyclo*[-Lys-Leu-Val-Phe-Phe-]. ***Angew. Chem. Int. Ed.*** 53, 8236–8239 (2014). *Hot Paper*
8) Yohei Seki, Kana Tanabe, Daisuke Sasaki, Youhei Sohma, Kounosuke Oisaki, Motomu Kanai, Serine-selective aerobic cleavage of peptides and a protein using a water-soluble copper–organoradical conjugate. ***Angew. Chem. Int. Ed.*** 53, 6501–6505 (2014).
9) Atsuhiko Taniguchi, Daisuke Sasaki, Azusa Shiohara, Takeshi Iwatsubo, Taisuke Tomita, Youhei Sohma,* Motomu Kanai,* Attenuation of the aggregation and neurotoxicity of amyloid-β peptides by catalytic photooxygenation, ***Angew. Chem. Int. Ed.*** 53, 1382–1385 (2014). *Hot Paper*
10) Kana Tanabe, Atsuhiko Taniguchi, Takuya Matsumoto, Kounosuke Oisaki, Youhei Sohma,* Motomu Kanai,* Asparagine-selective cleavage of peptide bonds through hypervalent iodine-mediated Hofmann rearrangement in neutral aqueous solution. ***Chem. Sci.*** 5, 2747–2753 (2014).
11) Hiroyuki Kawashima, Tomomi Kuruma, Masayuki Yamashita, Youhei Sohma,* Kenichi Akaji,* Synthesis of an *O*-acyl isopeptide by using native chemical ligation. ***J. Peptide Sci.*** 20, 361**–**365 (2014).
12) Taku Yoshiya, Takahiro Maruno, Tsuyoshi Uemura, Shigeru Kubo, Yoshiaki Kiso, Youhei Sohma, Kumiko Yoshizawa-Kumagaye, Yuji Kobayashi, Yuji Nishiuchi, Non-pretreated *O*-acyl isopeptide of amyloid β peptide 1-42 is monomeric with a random coil structure but starts to aggregate in a concentration-dependent manner. ***Bioorg. Med. Chem. Lett.*** 24, 3861–3864 (2014).
13) Taku Yoshiya, Takahiro Maruno, Tsuyoshi Uemura, Shigeru Kubo, Yoshiaki Kiso, Youhei Sohma, Kumiko Yoshizawa-Kumagaye, Yuji Kobayashi, Yuji Nishiuchi, *O*-Acyl isopeptide of Aβ1-42: Boc SPPS with the aid of isodipeptide unit and its concentration-dependent aggregative state. ***J. Peptide Sci.*** 20, 669–674 (2014).

14) Hiroyuki Kawashima, Youhei Sohma,* Tomoya Nakanishi, Hitomi Kitamura, Hidehito Mukai, Masayuki Yamashita, Kenichi Akaji, Yoshiaki Kiso,* A new class of aggregation inhibitor of amyloid-β peptide based on an *O*-acyl isopeptide. ***Bioorg. Med. Chem.*** 21, 6323–6327 (2013).
15) Youhei Sohma,* Moe Yamasaki, Hiroyuki Kawashima, Atsuhiko Taniguchi, Masayuki Yamashita, Kenichi Akaji, Hidehito Mukai, Yoshiaki Kiso,* Comparative properties of Aβ1–42, Aβ11–42, and [Pyr^{11}]Aβ11–42 generated from *O*-acyl isopeptides. ***Bioorg. Med. Chem. Lett.*** 23, 1326–1329 (2013).
16) Youhei Sohma,* Hitomi Kitamura, Hiroyuki Kawashima, Hironobu Hojo, Masayuki Yamashita, Kenichi Akaji, Yoshiaki Kiso,* Synthesis of an *O*-acyl isopeptide by using native chemical ligation to efficiently construct a hydrophobic polypeptide. ***Tetrahedron Lett.*** 52, 7146–7148 (2011).
17) Youhei Sohma,* Hui Wang, Atsuhiko Taniguchi, Yuta Hirayama, Taeko Kakizawa, Moe Yamasaki, Hidehito Mukai, Yoshiaki Kiso,* Self-assembly pathways of E22delta-type amyloid β peptide mutants generated from non-aggregative *O*-acyl isopeptide precursors. ***Bioorg. Med. Chem.*** 19, 3787–3792 (2011).
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23) Youhei Sohma,* Qing-xin Hua, Jonathan Whittaker, Michael A. Weiss, Stephen B. H. Kent,* Design and folding of [Glu^{A4}(O$\beta$$Thr^{B30}$)]insulin ('ester insulin'), a minimal proinsulin surrogate that can be chemically converted into human insulin. ***Angew. Chem. Int. Ed.*** 49, 5489–5493 (2010). *VIP, Cover picture*
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28) Atsuhiko Taniguchi,# Youhei Sohma,# Yuta Hirayama, Hidehito Mukai, Tooru Kimura, Yoshio Hayashi, Katsumi Matsuzaki, Yoshiaki Kiso, "Click peptide": pH-triggered in situ production and aggregation of monomer Aβ1-42. ***ChemBioChem*** 10, 710–715 (2009). (#equal contribution) *Highlighted in Angew. Chem. Int. Ed.*
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Review paper

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Book

1) Youhei Sohma, Stephen B.H. Kent: Medicinal chemistry applied to the protein molecule - total protein synthesis by native chemical ligation of synthetic peptides. ***Idenshiigaku MOOK21***, 83–87 (2012).
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Patent

1) Motomu Kanai, Youhei Sohma, Atsuhiko Taniguchi, Yusuke Shimizu, Preparation of 2-(1,2,3,4-tetrahydroquinolin-6-yl)benzothiazole compound, and medicine containing the same. WO/2016/010092
2) Motomu Kanai, Youhei Sohma, Kana Tanabe, System for sequential controlled release of functional molecule. WO/2015/137064
3) Motomu Kanai, Youhei Sohma, Tadamasa Arai, Takushi Araya, Preparation of amide compounds and their salts, β-amyloid aggregation inhibitors, and preventive and therapeutic method of Alzheimer disease. WO/2015/087865
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