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STAT3 inhibitory activity of structurally simplified Withaferin A analogues

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Signal Transducer and Activator of Transcription 3 (STAT3) is a component of the JAK/STAT pathway. Therapeutic inhibition of STAT3 has been of high interest, as its aberrant activation has been linked to cancer, inflammation and other human diseases. The withanolide family natural product Withaferin A inhibits STAT3 activation. We designed, synthesized and evaluated simplified withanolide analogues SLW1 and SLW2 and found that SLW1 retained the STAT3 inhibitory activity of Withaferin A.

Biography

Teruyuki Tahara has received his Masters in Pharmaceutical Science from Kyoto University in 2005. Currently he is a Medicinal Chemist at Maruho Co. Ltd. His research interests are synthetic organic chemistry, medicinal chemistry and biological evaluation of synthetic molecules. From 2011 to 2015, he was a Visiting Scientist at Harvard University in the Laboratory of Professor Matthew Shair, conducting a joint research project with Maruho. He is currently a PhD student with Prof. Lida at Kinki University.

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