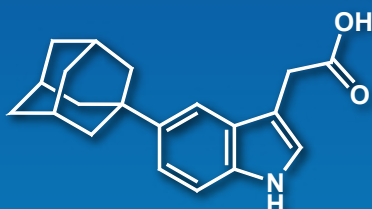


New

LIFE SCIENCE



Synthetic Auxin for Inducing Targeted Protein Degradation in Low Concentration



5-Adamantyl-IAA
10mg / 50mg
[A3390]

Advantages

- Selectively binds to the modified auxin receptor
- Shows 1000-fold stronger binding affinity than the natural auxin
- Induces protein degradation in lower concentration than the original AID system

An auxin-inducible degron (AID) system is a technique to induce degradation of target protein which has an AID tag for binding to auxin, because auxin receptor protein (TIR1) acts as a F-box protein constituting the SCF complex in the ubiquitin-proteasome system (Fig. 1).¹⁾ 5-Adamantyl-IAA [A3390] has 1000-fold stronger affinity with the modified TIR receptor protein than natural auxin (Fig. 2).²⁾ These make it possible to induce protein degradation in the 1/1000 auxin concentration of the original AID system, and a low-toxic protein degradation has been reported in mouse and human cells.³⁾

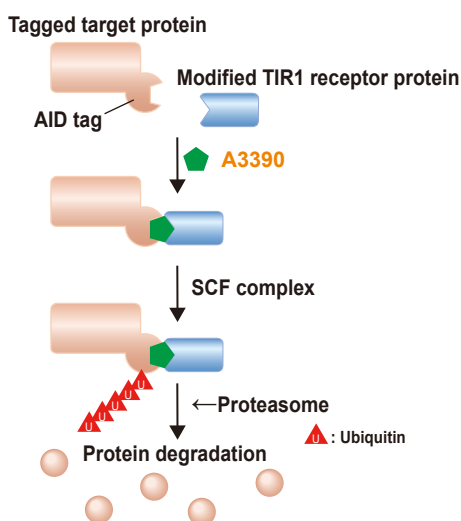


Figure 1. Targeted protein degradation using synthetic auxin and modified receptor.

- References
- 1) K. Nishimura, T. Fukagawa, H. Takisawa, T. Kakimoto, M. Kanemaki, *Nature Methods* **2009**, 6, 917.
 - 2) R. Yamada, K. Murai, N. Uchida, K. Takahashi, R. Iwasaki, Y. Tada, T. Kinoshita, K. Itami, K. U. Torii, S. Hagihara, *Plant Cell Physiol.* **2018**, 59, 1538.
 - 3) K. Nishimura, R. Yamada, S. Hagihara, R. Iwasaki, N. Uchida, T. Kamura, K. Takahashi, K. U. Torii, T. Fukagawa, *Nucleic Acids Res.* **2020**, 48, 108.

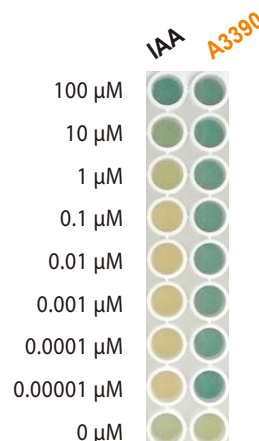


Figure 2. Interactions between modified receptor and AID tag protein in each chemical concentration by yeast two-hybrid assay.

A3390 induces interaction between modified receptor and AID tag protein in quite lower concentration (10 μM) compared with natural auxin (IAA). Expressed galactosidase is detected by the chromogenic substrate. *The data has been provided by Dr. Hagiwara.

Related Products

Proteasome inhibitor
Proteasome inhibitor
Synthetic auxin to modified receptor
Plant Tissue-Clearing Reagent
Plant Tissue-Clearing Reagent

Celastrol
Disulfiram
cvxIAA
Tissue-Clearing Reagent TOMEI [for Plants]
Tissue-Clearing Reagent iTOMEI-D [for Plants]

25mg [C2737]
25g / 500g [B0479]
10mg / 50mg [M3141]
100mL [T3530]
5mL / 25mL [T3940]

For further information please refer to our website at www.TCIchemicals.com.

auxins



Ordering and Customer Service

TCI AMERICA

Tel : 800-423-8616 / 503-283-1681
Fax : 888-520-1075 / 503-283-1987
E-mail : Sales-US@TCIchemicals.com

TCI EUROPE N.V.

Tel : +32 (0)3 735 07 00
Fax : +32 (0)3 735 07 01
E-mail : Sales-EU@TCIchemicals.com

TCI Deutschland GmbH

Tel : +49 (0)6196 64053-00
Fax : +49 (0)6196 64053-01
E-mail : Sales-DE@TCIchemicals.com

Tokyo Chemical Industry UK Ltd.

Tel : +44 (0)1865 784560
Fax : +44 (0)1865 784561
E-mail : Sales-UK@TCIchemicals.com

TCI Chemicals (India) Pvt. Ltd.

Tel : 1800 425 7889 / 044-2262 0909
Fax : 044-2262 8902
E-mail : Sales-IN@TCIchemicals.com

梯希爱(上海)化成工业发展有限公司

Tel : 800-988-0390 / 021-67121386
Fax : 021-6712-1385
E-mail : Sales-CN@TCIchemicals.com

TOKYO CHEMICAL INDUSTRY CO., LTD.

Tel : +81 (0)3-5640-8878
Fax : +81 (0)3-5640-8902
E-mail : globalbusiness@TCIchemicals.com

Availability, price or specification of the listed products are subject to change without prior notice. Reproduction forbidden without the prior written consent of Tokyo Chemical Industry Co., Ltd.