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RSC Chemical Biology

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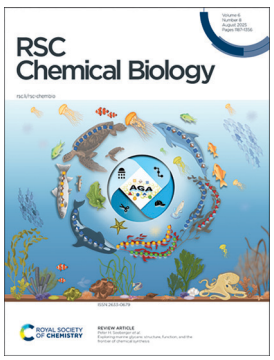
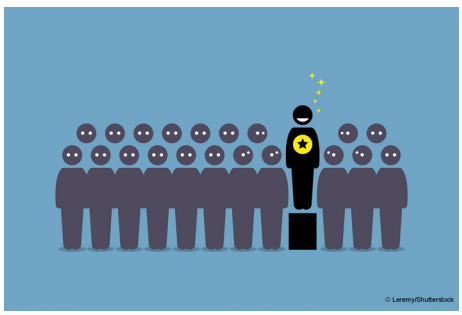


Cover
See Peter H. Seeberger *et al.*, pp. 1195–1213. Image reproduced by permission of Peter H. Seeberger, Phuong Luong and Sandhya Mardhekar from *RSC Chem. Biol.*, 2025, **6**, 1195.

EDITORIAL

1194

Outstanding Reviewers for *RSC Chemical Biology* in 2024

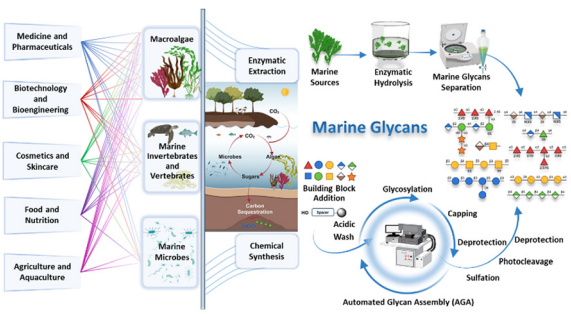


REVIEWS

1195

Exploring marine glycans: structure, function, and the frontier of chemical synthesis

Sandhya Mardhekar, Phuong Luong and Peter H. Seeberger*



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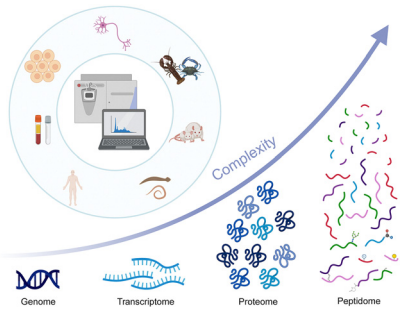
REVIEWS

1214

Quantitative neuropeptide analysis by mass spectrometry: advancing methodologies for biological discovery

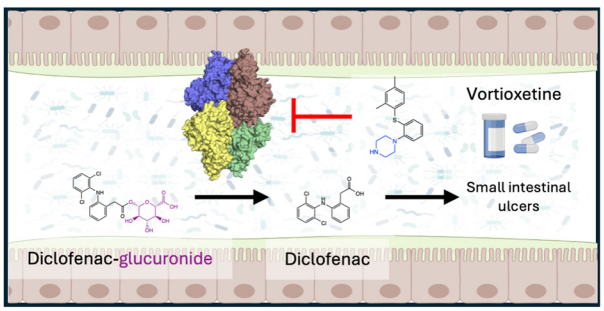
Angel Erbey Ibarra, Wenxin Wu, Haoran Zhang and Lingjun Li*



1233

Emerging gut microbial glycoside hydrolase inhibitors

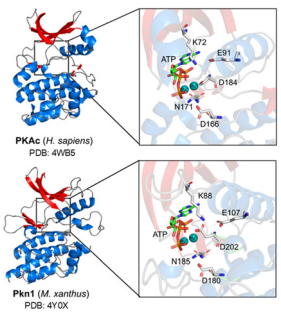
Mark E. Kowalewski and Matthew R. Redinbo*



1252

Regulation of bacterial phosphorelay systems

Daniel M. Foulkes, Daniel M. Cooper, Catherine Westland and Dominic P. Byrne*

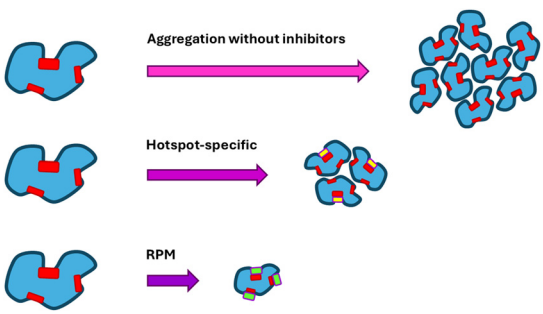


COMMUNICATIONS

1270

Random peptide mixtures of tryptophan and lysine suppress the aggregation of a cancer-related mutant of the Axin protein

Tommaso Garfagnini, Zvi Hayouka and Assaf Friedler*



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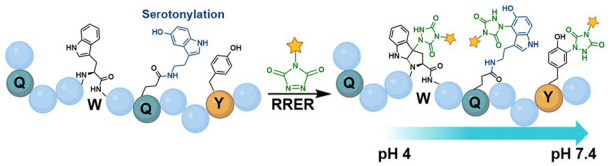
COMMUNICATIONS

1278

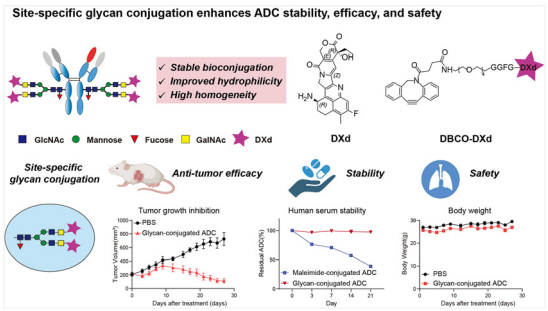


Regioselective rapid ene-type reaction (RRER) enables bioconjugation of histone serotonylation

Jinghua Wu, Huapeng Li, Adam R. Lovato, Andrew Symasek, Zeng Lin and Qingfei Zheng*

PAPERS

1284



A biparatopic HER2-targeting ADC constructed *via* site-specific glycan conjugation exhibits superior stability, safety, and efficacy

Qi Xue, Jianjian Peng, Wenying Dai, Qingsong Wu, Jinbiao Jiao, Yudi Hu, Wanxing Sha, Yang Yang, Wenhao Yu, Siyang Liu, Ting Xu* and Jie P. Li*

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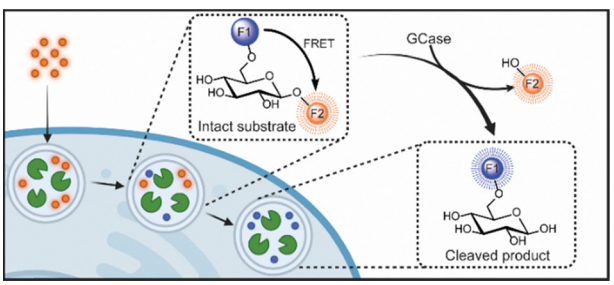

A dual-functional substrate for quantitation of substrate levels and GCase activity in living cells

Ben Tiet, Sha Zhu, Xi Chen, Nadia Anastasi, Nicholas W. See, Matthew C. Deen, Eva Harde and David J. Vocadlo*

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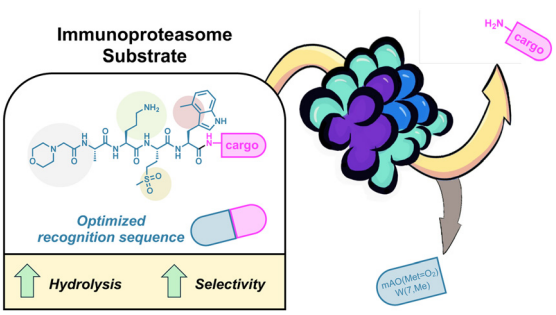

Exploring the immunoproteasome's substrate preferences for improved hydrolysis and selectivity

Christine S. Muli, Cody A. Loy and Darci J. Trader*

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PAPERS

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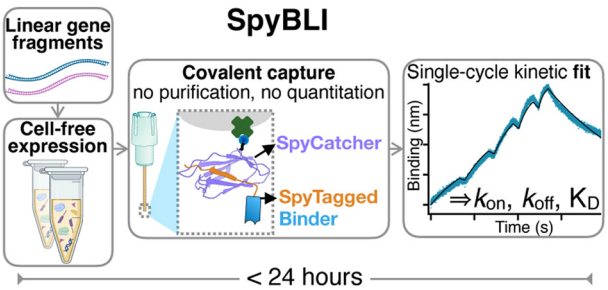
The SpyBLI cell-free pipeline for the rapid quantification of binding kinetics from crude samples

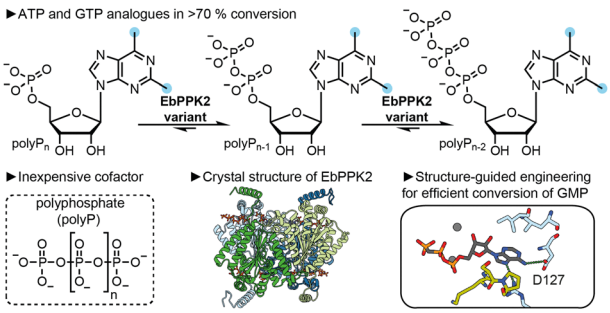
Olga Predeina, Misha Atkinson, Oliver Wissett, Montader Ali, Cristina Visentin, Stefano Ricagno, Anthony H. Keeble, Mark R. Howarth and Pietro Sormanni*



1328

Structure-guided engineering of a polyphosphate kinase 2 class III from an *Erysipelotrichaceae* bacterium to produce base-modified purine nucleotides

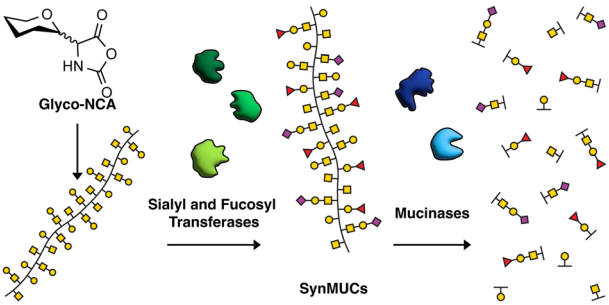
Rachel M. Mitton-Fry, René Rasche, Ann-Marie Lawrence-Dörner, Jannik Eschenbach, Aileen Tekath, Andrea Rentmeister, Daniel Kümmel and Nicolas V. Cornelissen*



1336

Chemoenzymatic synthesis of sialylated and fucosylated mucin analogs reveals glycan-dependent effects on protein conformation and degradation

Amanda M. Wood, Casia L. Wardzala and Jessica R. Kramer*



CORRECTION

1353

Correction: Turn-on fluorescent glucose transport bioprobe enables wash-free real-time monitoring of glucose uptake activity in live cells and small organisms

Monica S. Hensley, David Hutchings, Aldelrahman Ismail, Micaela Rayne Geborkoff, Thomas Werner and Marina Tanasova*