




Clyde Smith

Sr Research Engineer

Chemistry

 NIH Biosketch available Online

 Curriculum Vitae available Online

Bio

ACADEMIC APPOINTMENTS

- Sr Research Engineer, Chemistry

HONORS AND AWARDS

- Farrel Lytle Award, SSRL (2013)
- Applied Biosystems award for outstanding published work, NZSBMB (2003)
- Young Investigators' Award, Health Research Council of New Zealand (1991)
- Young Scientist's Award, Royal Society of New Zealand (1991)

Publications

PUBLICATIONS

- **Restricted Rotational Flexibility of the C5 α -Methyl-Substituted Carbapenem NA-1-157 Leads to Potent Inhibition of the GES-5 Carbapenemase.** *ACS infectious diseases*
Stewart, N. K., Toth, M., Quan, P., Beer, M., Buynak, J. D., Smith, C. A., Vakulenko, S. B.
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- **Dirigent isoflavene-forming PsPTS2: 3D Structure, stereochemical and kinetic characterization comparison with pterocarpan-forming PsPTS1 homolog in pea.** *The Journal of biological chemistry*
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- **Structural characterization of a soil viral auxiliary metabolic gene product - a functional chitosanase.** *Nature communications*
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- **C6 Hydroxymethyl-Substituted Carbapenem MA-1-206 Inhibits the Major Acinetobacter baumannii Carbapenemase OXA-23 by Impeding Deacylation.** *mBio*
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- **In Crystallo Time-Resolved Interaction of the Clostridioides difficile CDD-1 enzyme with Avibactam Provides New Insights into the Catalytic Mechanism of Class D β -lactamases.** *ACS infectious diseases*
Stewart, N. K., Toth, M., Stasyuk, A., Vakulenko, S. B., Smith, C. A.
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- **Class D β -lactamases do exist in Gram-positive bacteria.** *Nature chemical biology*
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2016; 12 (1): 9-14

- **Structural basis for carbapenemase activity of the OXA-23 β -lactamase from *Acinetobacter baumannii*.** *Chemistry & biology*
Smith, C. A., Antunes, N. T., Stewart, N. K., Toth, M., Kumarasiri, M., Chang, M., Mobashery, S., Vakulenko, S. B.
2013; 20 (9): 1107-15
- **X-ray Structure of the Magnesium(II)-ADP-Vanadate Complex of the *Dictyostelium discoideum* Myosin Motor Domain to 1.9 Å Resolution** *Biochemistry*
Smith, C. A., Rayment, I.
1996; 35 (17): 5404–5417
- **Evolution of carbapenemase activity in the class C β -lactamase ADC-1.** *mBio*
Stewart, N. K., Toth, M., Bhattacharya, M., Smith, C. A., Vakulenko, S. B.
2025: e0018525
- **Standardized Residue Numbering and Secondary Structure Nomenclature in the Class D β -Lactamases.** *ACS infectious diseases*
Stasyuk, A., Smith, C. A.
2025
- **Standardized Residue Numbering and Secondary Structure Nomenclature in the Class D β -Lactamases.** *bioRxiv : the preprint server for biology*
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- **The cobalamin processing enzyme of *Trichoplax adhaerens*.** *The Journal of biological chemistry*
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- **Decarboxylation of the Catalytic Lysine Residue by the C5 α -Methyl-Substituted Carbapenem NA-1-157 Leads to Potent Inhibition of the OXA-58 Carbapenemase.** *ACS infectious diseases*
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- **The C5 α -Methyl-Substituted Carbapenem NA-1-157 Exhibits Potent Activity against *Klebsiella* spp. Isolates Producing OXA-48-Type Carbapenemases.** *ACS infectious diseases*
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- **Crystal structures of glutathione- and inhibitor-bound human GGT1: critical interactions within the cysteinylglycine binding site.** *The Journal of biological chemistry*
Terzyan, S. S., Nguyen, L. T., Burgett, A. W., Heroux, A., Smith, C. A., You, Y., Hanigan, M. H.
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Smith, C. A.
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- **Inhibition of the Clostridioides difficile Class D β -Lactamase CDD-1 by Avibactam.** *ACS infectious diseases*
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- **Intrinsic Class D β -Lactamases of *Clostridium difficile*.** *mBio*
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- **Effect of pH on Fe-O₂ bond in the oxygen reactive hemoglobins of *L. pectinata* by X-ray Crystallography**
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- **Aminoglycoside resistance profile and structural architecture of the aminoglycoside acetyltransferase AAC(6)-Im.** *Microbial cell (Graz, Austria)*
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- **The role of conserved surface hydrophobic residues in the carbapenemase activity of the class D β -lactamases.** *Acta crystallographica. Section D, Structural biology*
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- **Structure of the extended-spectrum class C β -lactamase ADC-1 from *Acinetobacter baumannii*.** *Acta crystallographica. Section D, Biological crystallography*
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