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Chemistry

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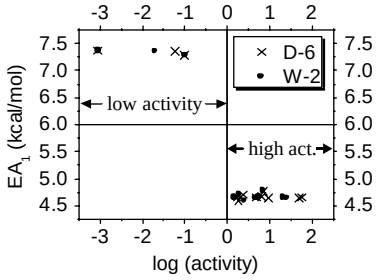
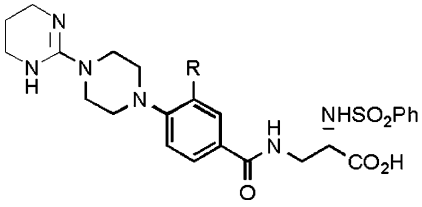
Contents

ARTICLES

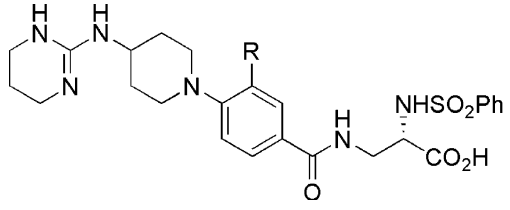




R = H
$\alpha_v\beta_3$ IC_{50}: 160 nM
$\alpha_{IIb}\beta_3$ IC_{50}: 0.73 nM

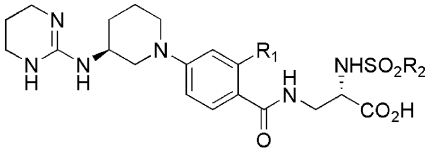
R = F
$\alpha_v\beta_3$ IC_{50}: 22 nM
$\alpha_{IIb}\beta_3$ IC_{50}:1.0 nM

A linear and unfused-tricyclic pharmacophore, which was designed from an RGD tripeptide sequence, was synthesized as a novel non-peptide integrin $\alpha_v\beta_3$ antagonist.

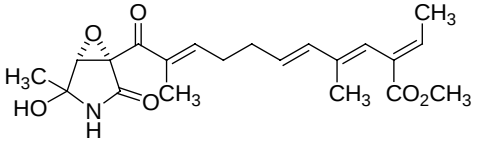


R = F
$\alpha_v\beta_3$ IC_{50}: 0.36 nM
$\alpha_{IIb}\beta_3$ IC_{50}: 0.21 nM
water solubility: 0.6 mg/ml

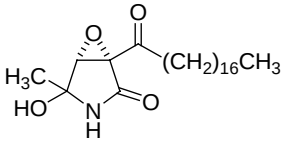
R = OMe
$\alpha_v\beta_3$ IC_{50}: 0.19 nM
$\alpha_{IIb}\beta_3$ IC_{50}: 0.44 nM
water solubility: 1.3 mg/ml



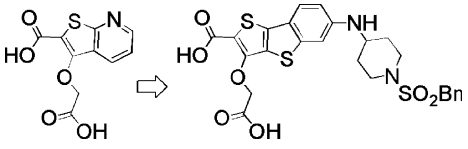
R_1 = H, R_2 = Ph	R_1 = F, R_2 = Ph	R_1 = H, R_2 = 2-thienyl
$\alpha_v\beta_3$ IC_{50}: 0.48 nM	$\alpha_v\beta_3$ IC_{50}: 0.23 nM	$\alpha_v\beta_3$ IC_{50}: 0.25 nM
$\alpha_{IIb}\beta_3$ IC_{50}: 0.56 nM	$\alpha_{IIb}\beta_3$ IC_{50}: 0.78 nM	$\alpha_{IIb}\beta_3$ IC_{50}: 0.40 nM
water solubility: 3.5 mg/ml	water solubility: 2.8 mg/ml	water solubility: 3.3 mg/ml



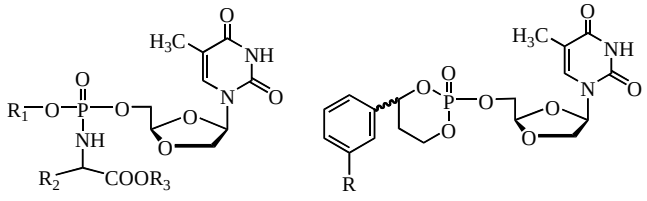
Epolactaene IC_{50} 3.82 μM

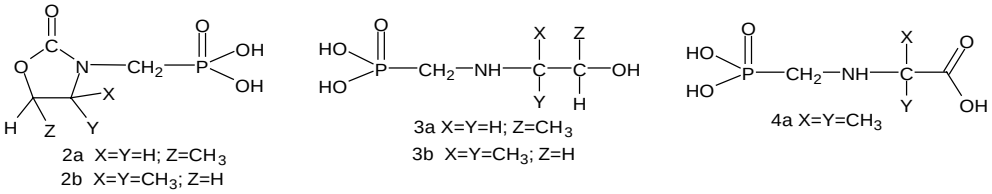


1e IC_{50} 0.70 μM

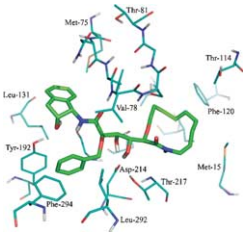


Novel bicyclic and tricyclic thiophene PTP1B inhibitors were discovered and optimized by structure-based design. Excellent consistency has been observed between structure–activity relationships and structural information from PTP1B-inhibitor complexes.

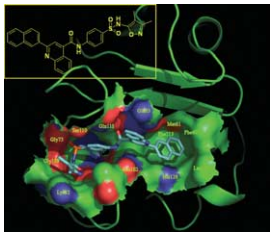




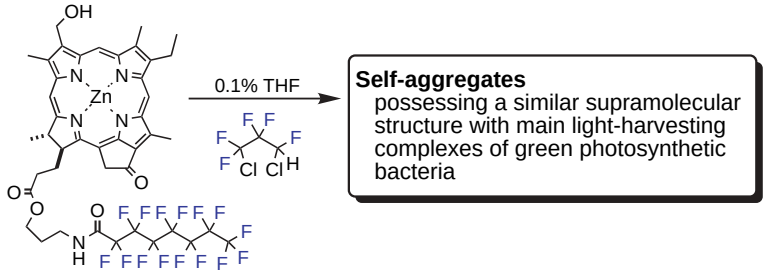
The genotoxic, clastogenic and antiproliferative effects of newly synthesized original aminophosphonic acids were investigated for the first time.

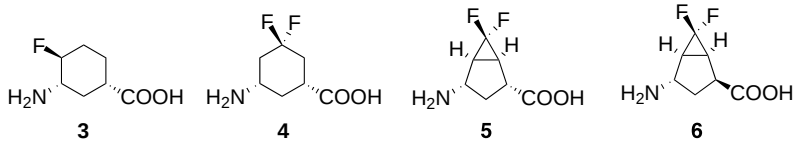


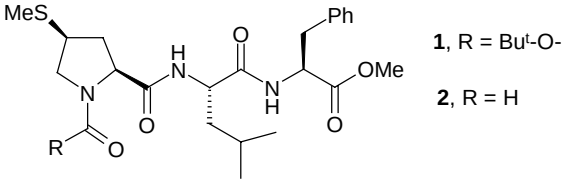
By using structure-based virtual screening approach in conjunction with chemical synthesis and bioassay, four potent CypA inhibitors have been discovered. Compound **16h** is active with very close potency to CsA in inhibiting the proliferation of spleen cells, demonstrating that this compound may be a good lead for discovering new immunosuppressive agents.



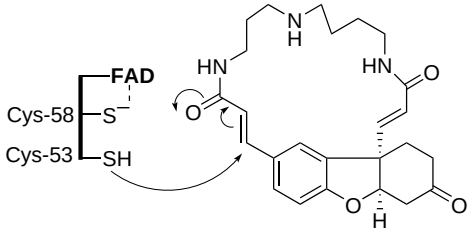
Molecular dynamics simulations were applied to explore the effect on the membrane and the construction of the MI-QSAR model due to the addition of cholesterol into the DMPC membrane system.



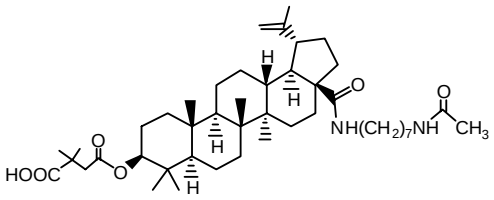




Novel analogues of the potent chemotactic tripeptide fMLF were designed and synthesized. The representative compound (1) containing the *cis*-4(*S*)-methylthio-(*S*)-proline residue at position 1 and the *N*-Boc-protecting group resulted to be a pure chemoattractant with the highest activity.



The molecular mechanism and minimal structural requirements for time-dependent inactivation of trypanothione reductase by the spermidine alkaloid lunarine and other natural product-derived compounds are described.



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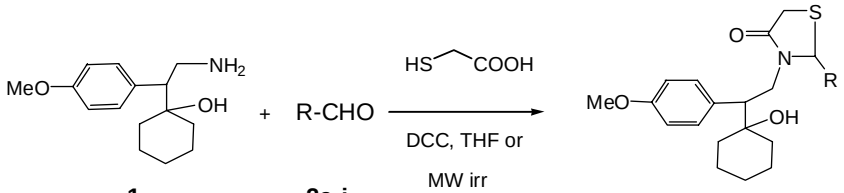
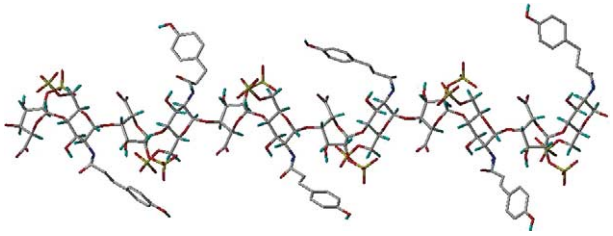
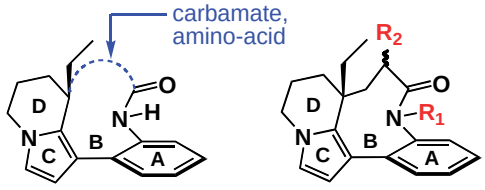
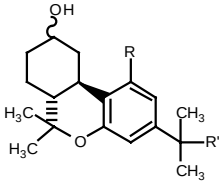
Synthesis of betulinic acid derivatives with both anti-HIV entry and anti-HIV maturation activities.



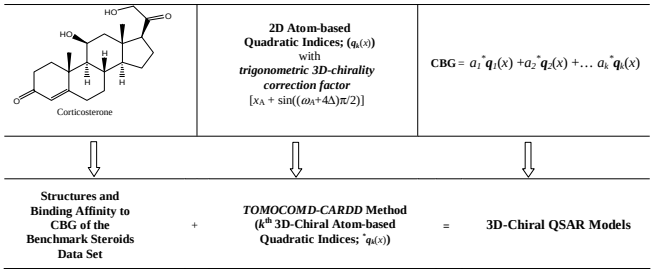
1 **2a-j** **3a-j**

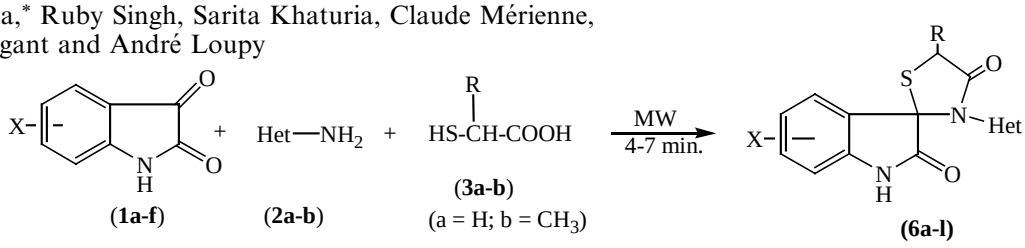




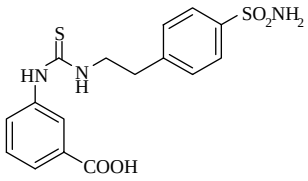


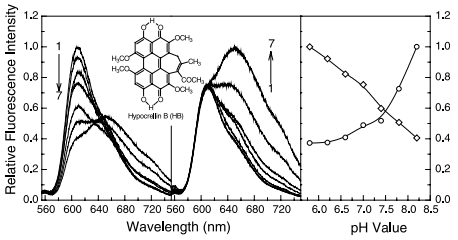
The synthesis and pharmacology of two series of 11-nor-9-hydroxy-HHCs are described. R = H, OCH_3; R′ = *n*-propyl to *n*-hexyl.



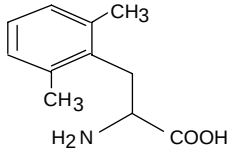


A microwave-assisted three-component, regioselective one-pot synthesis of spiro[indole-thiazolidinones] (**6a**–**l**) is carried out using montmorillonite KSF as solid support.



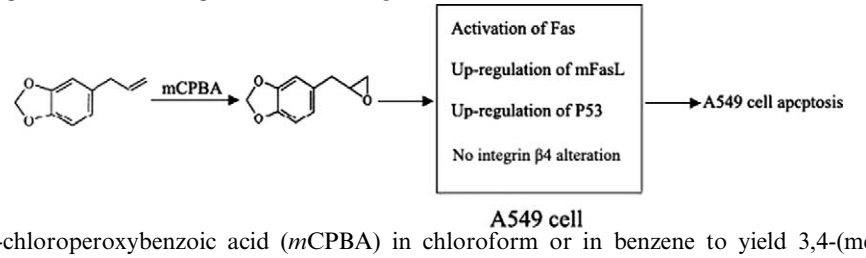


Bound to human serum albumin, hypocrellin B (HB) fluorescence was very sensitive to pH values in physiological range (6.0–8.0).

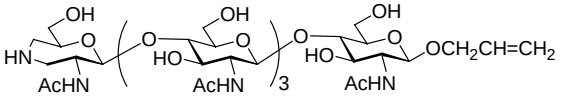


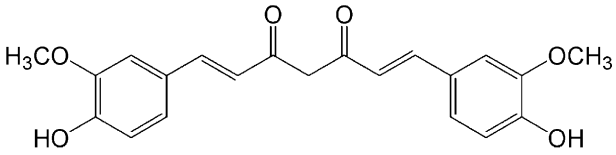
Dmp = 2,6-dimethylphenylalanine

Nociceptin and dynorphin A analogues containing Dmp in position 1 and/or 4 were synthesized. Dmp is a useful surrogate in producing analogues with novel receptor-binding profiles.

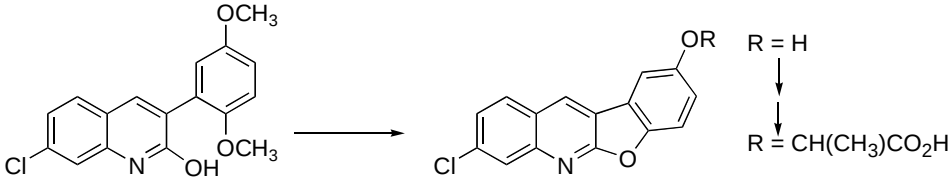


Safrole reacted with 3-chloroperoxybenzoic acid (*m*CPBA) in chloroform or in benzene to yield 3,4-(methylenedioxy)-1-(2′,3′-epoxypropyl)-benzene (safrole oxide). Safrole oxide induced apoptosis in A549 human lung cancer cells perhaps through Fas/FasL pathway.





Curcumin



*Corresponding author
ⓘ+ Supplementary data available via ScienceDirect

COVER

The figure shows a snapshot from a molecular dynamics simulation of a macrocyclic inhibitor in complex with one of its targets, plasmepsin IV from *Plasmodium falciparum*. The inhibitor is active also on the other aspartic proteases found in the food vacuole of this malarial parasite. The macrocyclic part of the ligand binds to the S1–S3 pocket of the enzyme, while the indanol and benzyloxy moieties bind to the S2′ and S1 sites, respectively [Ersmark, K.; Nervall, M.; Gutiérrez-de-Terán, H.; Hamelink, E.; Janka, L. K.; Clemente, J. C.; Dunn, B. M.; Gogoll, A.; Samuelsson, B.; Åqvist, J.; Hallberg, A. *Bioorg. Med. Chem.* **2006**, *14*, 2197–2208].

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