Molecular design and synthesis of histone deacetylase inhibitors as antineoplastic agents

Thesis
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Contents

Acknowledgements i

Contents iii

List of figures vi

List of tables ix

List of abbreviations xi

Abstract xiv

1. Introduction 1

1.1. Carcinogenesis 1

1.2. Causes of cancer (Aetiology) 1

1.3. Mechanism of cancer formation 1

1.4. Treatment of cancer 2

1.4.1. Traditional cancer treatments 2

1.4.2. Targeted cancer therapy 6

1.5. Histone deacetylases 10

1.5.1. Overview 10

1.6. Histone acetylation and deacetylation involvement in cancer 14

1.6.1. Classification of Histone deacetylase enzymes 15

1.6.2. HDAC substrates 21

1.6.3. Structure of HDACs 23

1.6.4. Mechanism of HDACs 26

1.7. Development of HDACIs 27

1.7.1. Mechanism of HDACIs 27
1.7.2. Clinical application of HDAC inhibitors 30
1.7.3. Design of Histone deacetylase inhibitors 31
1.7.4. Classification of HDACIs applied for cancer therapies: 33
2. Rational and Design 47
2.1. Molecular modeling 50
2.2. Synthetic schemes adapted to prepare the target compounds 53
3. Results and discussion 56
3.1. Chemistry 56
3.2. Biological evaluation 85
3.2.1. *In vitro* anticancer activity 85
3.2.2. *In vitro* HDAC enzyme inhibition assay 96
3.3. Molecular modeling studies 98
3.3.1. Docking study 98
3.3.2. Pharmacophore modeling 112
3.3.3. QSAR study 129
4. Experimental 135
4.1. Chemistry 135
4.1.1. Materials and instrumentation 135
4.1.2. Synthesis 136
4.2. Biological evaluation 156
4.2.1. Cell growth inhibitory activity in cancer cells 156
4.2.2. Histone deacetylase inhibitory activity 159

5. Final conclusion 162

6. Future perspectives 165

7. References 167

List of figures

Figure 1. Monoclonal antibody conjugated with radio-immunotherapy 7

Figure 2. Structure of chromatin..... ……10

Figure 3. Structure of octameric histone.....11

Figure 4. Histone acetylation and deacetylation process. 14

Figure 5. Classification of HDACs showing structure, length, cellular localization and tissue expression.....16

Figure 6. Saha crystallized in HDLP active site protein data bank ID (1C3S) 24

Figure 7. Illustrates geometrical arrangements of SAHA (HDACI) bound to HDLP, HDAC8 and HDAH, producing the same geometric relations 26

Figure 8. Mechanism of histone deacetylation (HDLP) proposed by Finnin.....27

Figure 9. Common pharmacophore of HDACIs proposed by Finnin 32

Figure 10. Common framework for bidentate chelating group 33

Figure 11. The three essential pharmacophore features given colour codes 47

Figure 12. Design strategy and structure of target compounds. 50

Figure 13. Mechanism of SNAr for synthesis of Ia-g 58

Figure 14. a) Claisen Schmidt first mechanism 61

b) Claisen Schmidt second mechanism…….54

Figure 15. Knoevenagel condensation mechanism for synthesis of (IIb-f).....64

Figure 16. Claisen– Schmidt condensation of benzaldehydes.....70

Figure 17. Reformatsky condensation reaction of benzaldehydes 70

Figure 18. Wittig-Emons reaction.....70

Figure 19. Perkin condensation reaction mechanism 72

Figure 20. The Doebner knoevenagel modification mechanism for synthesis of IIIa-g.....74

Figure 21. Mechanism of nucleophilic addition-elimination reaction suggested for synthesis of 4-(4-(substituted)phenylamino)-4-oxobutanoic acid VIa,b,e. 81

Figure 22. Formation of cyclic imide upon heating.....81

Figure 23. One dose mean graph of compound IIf: nine tested panels are colour coded 91

Figure 24. Concentration- inhibition response curves of synthesized compounds against HepG2 cancer cell line 94

Figure 25. Molecular modeling of (SAHA) (14) cocrystallized to the active site of HDLP with PDB code (1C3S).. 100

Figure 26. The superimposition between the top docking pose (purple carbons) and original crystallographic geometry (cyan carbons) having a measured RMSD 0.88^{0}. 101

Figure 27. Molecular modeling of two novel synthesized compounds IIc (*E*) and IIIg (*E*), binding to the active site of HDLP having PDB code (1C3S) were shown to compare binding interactions.....102

Figure 28. Constraint distances and angles between features of the generated top pharmacophore model.....116

Figure 29. The best generated pharmacophore model with the features considered HBA colored in green, RA colored in orange, HYP colored in cyan.....119

Figure 30. Docking model (A) coincides with 3D QSAR pharmacophore model (B) for E-isomer of newly synthesized compound IIf (*E*) having a measured IC_{50} of 10.21 µM......127

Figure 31. Docking model (A) coincides with 3D QSAR pharmacophore model (B) for Z isomer of newly synthesized compound IIf (*Z*) having a measured IC_{50} of 849.2 µM. 128

Figure 32. The corresponding scatter plots of the experimental versus the predicted bioactivity values -logIC_{50} for the training set compounds according to Equation 1.. 133

List of tables

Table 1. List of some non-histone protein substrates, see text for reference. 22

Table 2. Active site amino acid residues in HDLP, HDAH and human HDACs (1 - 8). 25

Table 3. Docking scores of the top-ranked poses of the modeled molecules.....52

Table 4. Sixty human tumor cell line anticancer screening data at single dose assay (10^{-5}M concentration) as percent cell growth promotion of IIb-f *(E)*, IIIf *(E)*, VIb, VIIf. 88

Table 5. Data of the *in vitro* anticancer activity on HepG2 cancer cell line 95

Table 6. The percentage inhibition of synthesized compounds at 10 µM concentration against HDAC1. 97

Table 7. The percentage inhibition of compounds IIf *(E)*, IIIa *(E)* and VIIa at 50 µM concentration against (HDAC2 - 11). 98

Table 8. Docking results for the synthesized compounds as well as SAHA in the binding site of HDLP enzyme PDB (1C3S) showing binding modes and affinities. 104

Table 9. The IC_{50} values against HepG2 cancer cell line and docking scores of the synthesized carboxylic acid compounds IIb-f (E), IIb,f (Z), VIa,b,e, VIIa, f and VIIIa,e.. 111

Table 10. Training set composed of 21 synthesized structures in this study and SAHA **(14)** used for pharmacophore generation. 115

Table 11. Constraint distances and angles between features of the generated top pharmacophore model. 117

Table 12. Fit values and predicted activities for the 21 synthesized compounds mapped with the generated 3D-pharmacophore model.. 118

Table 13. The pharmacophore features (HBA_1, HBA_2, HYP_3, and RA) mapped with the synthesized compounds and SAHA, as well as their fit values. 120

Table 14. Training set composed of 21 synthesized compounds and SAHA for QSAR 131

Table 15. Experimental activity of the synthesized compounds against the predicted activity according to Equation 1. 134

List of abbreviations

2D: 2-Dimentional

3D: 3-Dimentional

3D QSAR: 3-Dimentional Quantitative structure activity relationship

4-DMAP: 4-dimethylaminopyridine

Å: Angstrom

Adj: Adjusted

AML: Acute myeloid leukemia

Asn: Asparagine

Asp: Aspartate

Bcl-2: B-cell lymphoma 2

BSA: Bovine serum albumin

CDK: Cyclin dependent kinase

CHAPs: Cyclic hydroxamic acid-containing peptides

CLL: Chronic lymphocytic leukemia

CML: Chronic myeoid leukemia

CTCL: Cutaneous T-cell lymphoma

DMF: Dimethylformamide

DMSO: Dimethyl sulphoxide

DNA: Deoxyribonucleic acid

EDTA: Ethylenediaminetetraacetic acid

ELISA: Enzyme linked immunosorbent assay

FBS: Fetal bovine serum

FDA: Food and Drug Adminstration

FT-IR: Fourier transform-Infrared

HAT: Histone acetyl transferase

HBA: Hydrogen bond acceptor

HBD: Hydrogen bond donor

HCC: Hepatocellular carcinoma

HDA1: Histone deacetylase 1

HDAC: Histone deacetylase

HDACIs: Histone deacetylase inhibitors

HDAH: Histone deacetylase like amidohydrolase

HDLP: Histone deacetylase-like protein

HIF: Hypoxia inducible factor

His: Histidine

HL: Hodgkin's Lymphoma

H: Hours

HSP90: Heatshock protein 90

HYP: Hydrophobic

IC_{50}: 50% Inhibitory concentration

MHz: Mega Hertz

Mp: Melting point

MS: Mass spectroscopy

NCI: National Cancer Institute

NMP: N-methyl-2-pyrrolidone

NMR: Nuclear magnetic resonance

PDB: Protein data bank

Phe: Phenylalanine

POC: phosphorous oxy chloride

ppm: part per million

Pred: predicted

RA: Ring aromatic

Ras: Rat sarcoma

RNA: Ribonucleic acid

ROS: Reactive oxygen species

Rpd3: Reduced potassium dependency 3

RPMI: Roswell Park Memorial Institute medium

RUNX: Runt-related transcription factor

SAHA: Suberoylanilide hydroxamic acid

SIRT: Sirtuins

SNAr: Nucleophilic Aromatic Substitution reactions

SUMO: Small Ubiquitin-like Modifier

SRB: Sulforhodamine B

SRM: Surface recognition moiety

TCA: Trichloroacetic acid

THF: Tetrahydrofuran

TPX: Trapoxins

TSA: Trichostatin A

TSG: Tumor suppressor gene

VEGF: Vascular endothelial growth factor

VEGFR: Vascular endothelial growth factor receptor

ZBG: Zinc binding group

Abstract

Title of Thesis

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