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114 results

1 Better than Nature: Nicotinamide Biomimetics That Outperform Natural Coenzymes.
Knaus T, Paul CE, Levy CW, de Vries S, Mutti FG, Hollmann F, Scrutton NS.
J Am Chem Soc. 2016 Jan 27;138(3):1033-9. doi: 10.1021/jacs.5b12252. Epub 2016 Jan 13.
PMID: 26727612 Free PMC article.

2 Donor-Acceptor Distance Sampling Enhances the Performance of "Better than Nature" Nicotinamide Coenzyme Biomimetics.
Geddes A, Paul CE, Hay S, Hollmann F, Scrutton NS.
J Am Chem Soc. 2016 Sep 7;138(35):11089-92. doi: 10.1021/jacs.6b05625. Epub 2016 Aug 24.
PMID: 27552302

3 A survey of synthetic nicotinamide cofactors in enzymatic processes.
Paul CE, Hollmann F.
Appl Microbiol Biotechnol. 2016 Jun;100(11):4773-8. doi: 10.1007/s00253-016-7500-1. Epub 2016 Apr 19.
PMID: 27094184 Free PMC article. Review.

4 Characterization of Biomimetic Cofactors According to Stability, Redox Potentials, and Enzymatic Conversion by NADH Oxidase from Lactobacillus pentosus.
Nowak C, Pick A, Csepei LI, Sieber V.
Chembiochem. 2017 Oct 5;18(19):1944-1949. doi: 10.1002/cbic.201700258. Epub 2017 Aug 25.
PMID: 28752634

5 Synthesis and Biochemical Evaluation of Nicotinamide Derivatives as NADH Analogue Coenzymes in Ene Reductase.
Falcone N, She Z, Syed J, Lough A, Kraatz HB.
Chembiochem. 2019 Mar 15;20(6):838-845. doi: 10.1002/cbic.201800661. Epub 2019 Feb 1.
PMID: 30500101

6 Biomimetic cofactors and methods for their recycling.
Zachos I, Nowak C, Sieber V.
Curr Opin Chem Biol. 2019 Apr;49:59-66. doi: 10.1016/j.cbpa.2018.10.003. Epub 2018 Oct 16.
PMID: 30336443 Review.

7 Thermal, electrochemical and photochemical reactions involving catalytically versatile ene reductase enzymes.
Toogood HS, Scrutton NS.
Enzymes. 2020;47:491-515. doi: 10.1016/bs.enz.2020.05.012. Epub 2020 Jul 18.
PMID: 32951833 Review.

8 Accessing non-natural reactivity by irradiating nicotinamide-dependent enzymes with light.
Emmanuel MA, Greenberg NR, Oblinsky DG, Hyster TK.
Nature. 2016 Dec 14;540(7633):414-417. doi: 10.1038/nature20569.
PMID: 27974767

9 Strategies for regeneration of nicotinamide coenzymes emphasizing self-sufficient closed-loop recycling systems.
Hummel W, Gröger H.
J Biotechnol. 2014 Dec 10;191:22-31. doi: 10.1016/j.jbiotec.2014.07.449. Epub 2014 Aug 4.
PMID: 25102236

10 Engineering cytochrome P450 enzymes for improved activity towards biomimetic 1,4-NADH cofactors.
Ryan JD, Fish RH, Clark DS.
Chembiochem. 2008 Nov 3;9(16):2579-82. doi: 10.1002/cbic.200800246.
PMID: 18816544 No abstract available.

11 Protein engineering of oxidoreductases utilizing nicotinamide-based coenzymes, with applications in synthetic biology.
You C, Huang R, Wei X, Zhu Z, Zhang YP.
Synth Syst Biotechnol. 2017 Oct 6;2(3):208-218. doi: 10.1016/j.synbio.2017.09.002. eCollection 2017 Sep.
PMID: 29318201 Free PMC article. Review.

12 Regeneration of nicotinamide coenzymes: principles and applications for the synthesis of chiral compounds.
Weckbecker A, Gröger H, Hummel W.
Adv Biochem Eng Biotechnol. 2010;120:195-242. doi: 10.1007/10_2009_55.
PMID: 20182929

13 Biocatalytic reduction of activated CC-bonds and beyond: emerging trends.
Winkler CK, Faber K, Hall M.
Curr Opin Chem Biol. 2018 Apr;43:97-105. doi: 10.1016/j.cbpa.2017.12.003. Epub 2018 Jan 4.

PMID: 29275291 Review.

14 [Content of nicotinamide coenzymes in rat liver under conditions of nicotinamide administration].
Mogilevich SE, Velikiĭ MM, Parkhomets' PK.
Ukr Biokhim Zh. 1977 Nov-Dec;49(6):39-43.
PMID: 22148 Ukrainian.

15 Redox Biocatalysis: Quantitative Comparisons of Nicotinamide Cofactor Regeneration Methods.
Sharma VK, Hutchison JM, Allgeier AM.
ChemSusChem. 2022 Nov 22;15(22):e202200888. doi: 10.1002/cssc.202200888. Epub 2022 Oct 26.
PMID: 36129761 Review.

16 Synthesis and application of water-soluble macromolecular derivatives of the redox coenzymes NAD(H), NADP(H) and FAD.
Bückmann AF, Carrea G.
Adv Biochem Eng Biotechnol. 1989;39:97-152. doi: 10.1007/BFb0051953.
PMID: 2510475 Review.

17 Two functionally distinct $NADP^+$-dependent ferredoxin oxidoreductases maintain the primary redox balance of *Pyrococcus furiosus*.
Nguyen DMN, Schut GJ, Zadvornyy OA, Tokmina-Lukaszewska M, Poudel S, Lipscomb GL, Adams LA, Dinsmore JT, Nixon WJ, Boyd ES, Bothner B, Peters JW, Adams MWW.
J Biol Chem. 2017 Sep 1;292(35):14603-14616. doi: 10.1074/jbc.M117.794172. Epub 2017 Jul 13.
PMID: 28705933 Free PMC article.

18 Synthesis and properties of new coenzyme mimics based on the artificial coenzyme CL4.
Ansell RJ, Small DA, Lowe CR.
J Mol Recognit. 1999 Jan-Feb;12(1):45-56. doi: 10.1002/(SICI)1099-1352(199901/02)12:1<45::AID-JMR374>3.0.CO;2-9.
PMID: 10398396

19 [Change in the content of the nicotinamide coenzymes in the liver of albino rats under the effect of thiophosamide].
Bidenko ED.
Ukr Biokhim Zh. 1968;40(5):436-9.
PMID: 4387345 Ukrainian. No abstract available.

20 [Physiological effects of nicotinamide].
Ricci C.
Acta Vitaminol Enzymol. 1971;25(1):65-80.
PMID: 4398622 Italian. No abstract available.

21 A Tailor-Made Deazaflavin-Mediated Recycling System for Artificial Nicotinamide Cofactor Biomimetics.
Drenth J, Yang G, Paul CE, Fraaije MW.
ACS Catal. 2021 Sep 17;11(18):11561-11569. doi: 10.1021/acscatal.1c03033. Epub 2021 Sep 2.
PMID: 34557329 Free PMC article.

22 Asymmetric Reduction of (R)-Carvone through a Thermostable and Organic-Solvent-Tolerant Ene-Reductase.
Tischler D, Gädke E, Eggerichs D, Gomez Baraibar A, Mügge C, Scholtissek A, Paul CE.
Chembiochem. 2020 Apr 17;21(8):1217-1225. doi: 10.1002/cbic.201900599. Epub 2020 Jan 7.
PMID: 31692216 Free PMC article.

23 Redox enzymes used in chiral syntheses coupled to coenzyme regeneration.
Leonida MD.
Curr Med Chem. 2001 Mar;8(4):345-69. doi: 10.2174/0929867013373390.
PMID: 11172694 Review.

24 Selectivity through discriminatory induced fit enables switching of NAD(P)H coenzyme specificity in Old Yellow Enzyme ene-reductases.
Iorgu AI, Hedison TM, Hay S, Scrutton NS.
FEBS J. 2019 Aug;286(16):3117-3128. doi: 10.1111/febs.14862. Epub 2019 May 13.
PMID: 31033202 Free PMC article.

25 A Hitchhiker's Guide to Supplying Enzymatic Reducing Power into Synthetic Cells.
Partipilo M, Claassens NJ, Slotboom DJ.
ACS Synth Biol. 2023 Apr 21;12(4):947-962. doi: 10.1021/acssynbio.3c00070. Epub 2023 Apr 13.
PMID: 37052416 Free PMC article. Review.

26 Crystal structure of E.coli alcohol dehydrogenase YqhD: evidence of a covalently modified NADP coenzyme.
Sulzenbacher G, Alvarez K, Van Den Heuvel RH, Versluis C, Spinelli S, Campanacci V, Valencia C, Cambillau C, Eklund H, Tegoni M.
J Mol Biol. 2004 Sep 10;342(2):489-502. doi: 10.1016/j.jmb.2004.07.034.
PMID: 15327949

27 Metalloprotein mimics - old tools in a new light.

Happe T, Hemschemeier A.
Trends Biotechnol. 2014 Apr;32(4):170-6. doi: 10.1016/j.tibtech.2014.02.004. Epub 2014 Mar 11.
PMID: 24630475

28 Formation of [nicotinamide-$^2H_3$]NAD$^+$ from [$^2H_4$]nicotinamide and [$^2H_4$]nicotinic acid in human HepG2N cells and involvement of $^2H/^1H$ exchange at the redox site of NAD$^+$/NADH.
Hara N, Shibata T, Osago H, Yamada K, Tsuchiya M.
J Nutr Sci Vitaminol (Tokyo). 2014;60(1):17-21. doi: 10.3177/jnsv.60.17.
PMID: 24759255 Free article.

29 Direct NAD(P)H hydrolysis into ADP-ribose(P) and nicotinamide induced by reactive oxygen species: a new mechanism of oxygen radical toxicity.
Tavazzi B, Di Pierro D, Amorini AM, Fazzina G, Galvano M, Lupi A, Giardina B, Lazzarino G.
Free Radic Res. 2000 Jul;33(1):1-12. doi: 10.1080/10715760000300561.
PMID: 10826916

30 Boosting artificial nicotinamide cofactor systems.
Zachos I, Güner S, Essert A, Lommes P, Sieber V.
Chem Commun (Camb). 2022 Oct 25;58(85):11945-11948. doi: 10.1039/d2cc03423a.
PMID: 36200889

31 RNA aptamers that bind flavin and nicotinamide redox cofactors.
Lauhon CT, Szostak JW.
J Am Chem Soc. 1995 Feb 1;117(4):1246-57. doi: 10.1021/ja00109a008.
PMID: 11539282

32 carba Nicotinamide Adenine Dinucleotide Phosphate: Robust Cofactor for Redox Biocatalysis.
Zachos I, Döring M, Tafertshofer G, Simon RC, Sieber V.
Angew Chem Int Ed Engl. 2021 Jun 21;60(26):14701-14706. doi: 10.1002/anie.202017027. Epub 2021 May 10.
PMID: 33719153 Free PMC article.

33 Microbial redox coenzyme engineering and applications in biosynthesis.
Yang H, Jia X, Han Y.
Trends Microbiol. 2022 Apr;30(4):318-321. doi: 10.1016/j.tim.2022.01.012. Epub 2022 Feb 5.
PMID: 35135718

34 1H-, 13C-, 31P-NMR studies and conformational analysis of NADP+, NADPH coenzymes and of dimers from electrochemical reduction of NADP+.
Ragg E, Scaglioni L, Mondelli R, Carelli I, Casini A, Tortorella S.
Biochim Biophys Acta. 1991 Jan 8;1076(1):49-60. doi: 10.1016/0167-4838(91)90218-o.
PMID: 1824754

35 H_2-driven cofactor regeneration with NAD(P)$^+$-reducing hydrogenases.
Lauterbach L, Lenz O, Vincent KA.
FEBS J. 2013 Jul;280(13):3058-68. doi: 10.1111/febs.12245. Epub 2013 Apr 17.
PMID: 23497170 Free article. Review.

36 Surface Reorganization of Transition Metal Dichalcogenide Nanoflowers for Efficient Electrochemical Coenzyme Regeneration.
Williams N, Hahn K, Goodman R, Chen X, Gu J.
ACS Appl Mater Interfaces. 2023 Jan 25;15(3):3925-3933. doi: 10.1021/acsami.2c17483. Epub 2023 Jan 11.
PMID: 36629401 Free PMC article.

37 The Auxiliary NADH Dehydrogenase Plays a Crucial Role in Redox Homeostasis of Nicotinamide Cofactors in the Absence of the Periplasmic Oxidation System in Gluconobacter oxydans NBRC3293.
Sriherfyna FH, Matsutani M, Hirano K, Koike H, Kataoka N, Yamashita T, Nakamaru-Ogiso E, Matsushita K, Yakushi T.
Appl Environ Microbiol. 2021 Jan 4;87(2):e02155-20. doi: 10.1128/AEM.02155-20. Print 2021 Jan 4.
PMID: 33127815 Free PMC article.

38 Oxidation of nicotinamide coenzyme dimers by one-electron-accepting proteins.
Avigliano L, Carelli V, Casini A, Finazzi-Agrò A, Liberatore F, Rossi A.
Biochem J. 1986 Aug 1;237(3):919-22. doi: 10.1042/bj2370919.
PMID: 3026335 Free PMC article.

39 Cofactor engineering for advancing chemical biotechnology.
Wang Y, San KY, Bennett GN.
Curr Opin Biotechnol. 2013 Dec;24(6):994-9. doi: 10.1016/j.copbio.2013.03.022. Epub 2013 Apr 20.
PMID: 23611567 Free article. Review.

40 Enhancing Multistep Reactions: Biomimetic Design of Substrate Channeling Using P22 Virus-Like Particles.
Wang Y, Selivanovitch E, Douglas T.
Adv Sci (Weinh). 2023 May;10(13):e2206906. doi: 10.1002/advs.202206906. Epub 2023 Feb 23.

PMID: 36815387 Free PMC article.

41 A hydrogen-driven biocatalytic approach to recycling synthetic analogues of NAD(P)H.
Reeve HA, Nicholson J, Altaf F, Lonsdale TH, Preissler J, Lauterbach L, Lenz O, Leimkühler S, Hollmann F, Paul CE, Vincent KA.
Chem Commun (Camb). 2022 Sep 20;58(75):10540-10543. doi: 10.1039/d2cc02411j.
PMID: 36047350

42 [The dynamic biosynthesis of nicotinamide coenzymes from nicotinamide and nicotinic acid in rat tissues].
Fedyk MIa, Velykyĭ MM, Zababurina ML, Oliiarnyk OD.
Ukr Biokhim Zh (1978). 1996 Mar-Apr;68(2):29-33.
PMID: 9005656 Ukrainian.

43 [Nicotinamide coenzyme regulation of the sorbitol pathway of glucose metabolism in the aorta of rats with streptozotocin diabetes].
Obrosova IG, Velikiĭ NN, Efimov AS.
Vopr Med Khim. 1985 Mar-Apr;31(2):125-8.
PMID: 3159151 Russian.

44 RESPIRATORY PATHWAYS IN THE MYCOPLASMA. II. PATHWAY OF ELECTRON TRANSPORT DURING OXIDATION OF REDUCED NICOTINAMIDE ADENINE DINUCLEOTIDE BY MYCOPLASMA HOMINIS.
VANDEMARK PJ, SMITH PF.
J Bacteriol. 1964 Jul;88(1):122-9. doi: 10.1128/jb.88.1.122-129.1964.
PMID: 14197876 Free PMC article.

45 Enzymes as modular catalysts for redox half-reactions in H2-powered chemical synthesis: from biology to technology.
Reeve HA, Ash PA, Park H, Huang A, Posidias M, Tomlinson C, Lenz O, Vincent KA.
Biochem J. 2017 Jan 15;474(2):215-230. doi: 10.1042/BCJ20160513.
PMID: 28062838 Free PMC article. Review.

46 Fine tuning of coenzyme specificity in family 2 aldo-keto reductases revealed by crystal structures of the Lys-274-->Arg mutant of Candida tenuis xylose reductase (AKR2B5) bound to NAD+ and NADP+.
Leitgeb S, Petschacher B, Wilson DK, Nidetzky B.
FEBS Lett. 2005 Jan 31;579(3):763-7. doi: 10.1016/j.febslet.2004.12.063.
PMID: 15670843 Free article.

47 A hydrogen bond network in the active site of Anabaena ferredoxin-NADP(+) reductase modulates its catalytic efficiency.
Sánchez-Azqueta A, Herguedas B, Hurtado-Guerrero R, Hervás M, Navarro JA, Martínez-Júlvez M, Medina M.
Biochim Biophys Acta. 2014 Feb;1837(2):251-63. doi: 10.1016/j.bbabio.2013.10.010. Epub 2013 Nov 4.
PMID: 24200908 Free article.

48 Stereospecificity for nicotinamide nucleotides in enzymatic and chemical hydride transfer reactions.
You KS.
CRC Crit Rev Biochem. 1985;17(4):313-451. doi: 10.3109/10409238509113625.
PMID: 3157549 Review.

49 Indirect electrochemical reduction of nicotinamide coenzymes.
Vuorilehto K, Lütz S, Wandrey C.
Bioelectrochemistry. 2004 Dec;65(1):1-7. doi: 10.1016/j.bioelechem.2004.05.006.
PMID: 15522685

50 [Effect of hypoxia on the concentration of nicotinamide coenzymes in the tissues of newborn rats].
Iurkov IuA, Safonova TIa.
Biull Eksp Biol Med. 1976;82(11):1326-8.
PMID: 13878 Russian.

51 Catalytic Biomimetic Asymmetric Reduction of Alkenes and Imines Enabled by Chiral and Regenerable NAD(P)H Models.
Wang J, Zhu ZH, Chen MW, Chen QA, Zhou YG.
Angew Chem Int Ed Engl. 2019 Feb 4;58(6):1813-1817. doi: 10.1002/anie.201813400. Epub 2019 Jan 14.
PMID: 30556234

52 Coenzyme Engineering of a Hyperthermophilic 6-Phosphogluconate Dehydrogenase from $NADP^+$ to NAD^+ with Its Application to Biobatteries.
Chen H, Zhu Z, Huang R, Zhang YP.
Sci Rep. 2016 Nov 2;6:36311. doi: 10.1038/srep36311.
PMID: 27805055 Free PMC article.

53 [Study of the role of nicotinamide coenzymes in the regulation of glyceroneogenesis from pyruvate in rat epididymis fat tissue].
Velikiĭ NN, Mogilevich SE, Parkhomets PK, Klimenko AP.
Ukr Biokhim Zh (1978). 1982 Nov-Dec;54(6):639-46.
PMID: 6217612 Russian.

54 A new biomimetic route to engineer enzymatically active mechano-responsive materials.
Rios C, Longo J, Zahouani S, Garnier T, Vogt C, Reisch A, Senger B, Boulmedais F, Hemmerlé J, Benmlih K, Frisch B, Schaaf P, Jierry L, Lavalle P.
Chem Commun (Camb). 2015 Apr 4;51(26):5622-5. doi: 10.1039/c5cc00329f.
PMID: 25719225

55 Determinants of substrate binding and protonation in the flavoenzyme xenobiotic reductase A.
Spiegelhauer O, Werther T, Mende S, Knauer SH, Dobbek H.
J Mol Biol. 2010 Oct 22;403(2):286-98. doi: 10.1016/j.jmb.2010.08.047. Epub 2010 Sep 6.
PMID: 20826164

56 Selectivity in the binding of NAD(P)+ analogues to NAD- and NADP-dependent pig heart isocitrate dehydrogenases. A nuclear magnetic resonance study.
Ehrlich RS, Colman RF.
Biochemistry. 1992 Dec 15;31(49):12524-31. doi: 10.1021/bi00164a032.
PMID: 1463739

57 Redox cofactor engineering in industrial microorganisms: strategies, recent applications and future directions.
Liu J, Li H, Zhao G, Caiyin Q, Qiao J.
J Ind Microbiol Biotechnol. 2018 May;45(5):313-327. doi: 10.1007/s10295-018-2031-7. Epub 2018 Mar 27.
PMID: 29582241 Review.

58 X-ray structures of two oxidation states of a flavin-nicotinamide biscoenzyme and models for flavin--nicotinamide interactions.
Porter DJ, Bright HJ, Voet D.
Nature. 1977 Sep 15;269(5625):213-7. doi: 10.1038/269213a0.
PMID: 145544

59 A substrate-bound structure of cyanobacterial biliverdin reductase identifies stacked substrates as critical for activity.
Takao H, Hirabayashi K, Nishigaya Y, Kouriki H, Nakaniwa T, Hagiwara Y, Harada J, Sato H, Yamazaki T, Sakakibara Y, Suiko M, Asada Y, Takahashi Y, Yamamoto K, Fukuyama K, Sugishima M, Wada K.
Nat Commun. 2017 Feb 7;8:14397. doi: 10.1038/ncomms14397.
PMID: 28169272 Free PMC article.

60 Catalytic promiscuity enabled by photoredox catalysis in nicotinamide-dependent oxidoreductases.
Biegasiewicz KF, Cooper SJ, Emmanuel MA, Miller DC, Hyster TK.
Nat Chem. 2018 Jul;10(7):770-775. doi: 10.1038/s41557-018-0059-y. Epub 2018 Jun 11.
PMID: 29892028

61 A comparative study of nicotinamide nucleotide coenzymes during growth of the sheep and rat.
CAIGER P, MORTON RK, FILSELL OH, JARRETT IG.
Biochem J. 1962 Nov;85(2):351-9. doi: 10.1042/bj0850351.
PMID: 14017726 Free PMC article. No abstract available.

62 A water-forming NADH oxidase from Lactobacillus pentosus suitable for the regeneration of synthetic biomimetic cofactors.
Nowak C, Beer B, Pick A, Roth T, Lommes P, Sieber V.
Front Microbiol. 2015 Sep 16;6:957. doi: 10.3389/fmicb.2015.00957. eCollection 2015.
PMID: 26441891 Free PMC article.

63 Global effects of the energetics of coenzyme binding: NADPH controls the protein interaction properties of human cytochrome P450 reductase.
Grunau A, Paine MJ, Ladbury JE, Gutierrez A.
Biochemistry. 2006 Feb 7;45(5):1421-34. doi: 10.1021/bi052115r.
PMID: 16445284

64 THE ACTIVITY OF LIVER ALCOHOL DEHYDROGENASE WITH NICOTINAMIDE-ADENINE DINUCLEOTIDE PHOSPHATE AS COENZYME.
DALZIEL K, DICKINSON FM.
Biochem J. 1965 May;95(2):311-20. doi: 10.1042/bj0950311.
PMID: 14340079 Free PMC article.

65 Overcoming co-product inhibition in the nicotinamide independent asymmetric bioreduction of activated C=C-bonds using flavin-dependent ene-reductases.
Winkler CK, Clay D, van Heerden E, Faber K.
Biotechnol Bioeng. 2013 Dec;110(12):3085-92. doi: 10.1002/bit.24981. Epub 2013 Jul 10.
PMID: 23794404 Free PMC article.

66 External loops at the ferredoxin-NADP(+) reductase protein-partner binding cavity contribute to substrates allocation.
Sánchez-Azqueta A, Martínez-Júlvez M, Hervás M, Navarro JA, Medina M.
Biochim Biophys Acta. 2014 Feb;1837(2):296-305. doi: 10.1016/j.bbabio.2013.11.016. Epub 2013 Dec 7.
PMID: 24321506 Free article.

67 Effects of nicotinamide coenzymes on the stability of enzyme activities and proteins in niacin-deficient quail tissues against trypsin treatment.
Park IK, Koh YH.
Comp Biochem Physiol B Biochem Mol Biol. 2001 Jan;128(1):99-107. doi: 10.1016/s1096-4959(00)00302-x.
PMID: 11163309

68 Structural basis for double cofactor specificity in a new formate dehydrogenase from the acidobacterium Granulicella mallensis MP5ACTX8.
Fogal S, Beneventi E, Cendron L, Bergantino E.
Appl Microbiol Biotechnol. 2015 Nov;99(22):9541-54. doi: 10.1007/s00253-015-6695-x. Epub 2015 Jun 24.
PMID: 26104866

69 [In vivo action of glycolate on the state of oxidation reduction of NAD and NADP coenzymes in rat liver].
Thuret F, Lamothe C, Laborit H.
Agressologie. 1971;12(3):183-5.
PMID: 4399329 French. No abstract available.

70 Structure and Reactivity of an Asymmetric Synthetic Mimic of Nitrogenase Cofactor.
Tanifuji K, Sickerman N, Lee CC, Nagasawa T, Miyazaki K, Ohki Y, Tatsumi K, Hu Y, Ribbe MW.
Angew Chem Int Ed Engl. 2016 Dec 12;55(50):15633-15636. doi: 10.1002/anie.201608806. Epub 2016 Nov 10.
PMID: 27862765

71 Structure and catalytic mechanism of human steroid 5beta-reductase (AKR1D1).
Di Costanzo L, Drury JE, Christianson DW, Penning TM.
Mol Cell Endocrinol. 2009 Mar 25;301(1-2):191-8. doi: 10.1016/j.mce.2008.09.013. Epub 2008 Sep 19.
PMID: 18848863 Free PMC article.

72 Artificial Enzyme-based Logic Operations to Mimic an Intracellular Enzyme-participated Redox Balance System.
Huang Y, Pu F, Ren J, Qu X.
Chemistry. 2017 Jul 6;23(38):9156-9161. doi: 10.1002/chem.201701353. Epub 2017 Jun 20.
PMID: 28543668

73 Enantioselective reduction of prochiral ketones by engineered bifunctional fusion proteins.
Hölsch K, Weuster-Botz D.
Biotechnol Appl Biochem. 2010 Aug 2;56(4):131-40. doi: 10.1042/BA20100143.
PMID: 20590527

74 Escherichia coli Strain Designed for Characterizing in Vivo Functions of Nicotinamide Adenine Dinucleotide Analogues.
Wang L, Liu B, Liu Y, Sun Y, Liu W, Yu D, Zhao ZK.
Org Lett. 2019 May 3;21(9):3218-3222. doi: 10.1021/acs.orglett.9b00935. Epub 2019 Apr 17.
PMID: 30995052

75 Harnessing nature's insights: synthetic small molecules with peroxidase-mimicking DNAzyme properties.
Stefan L, Xu HJ, Gros CP, Denat F, Monchaud D.
Chemistry. 2011 Sep 19;17(39):10857-62. doi: 10.1002/chem.201101337. Epub 2011 Aug 29.
PMID: 21919091 No abstract available.

76 THE RELATIONSHIP BETWEEN 3 ALPHA-HYDROXYSTEROID NICOTINAMIDE NUCLEOTIDE COENZYME TRANSHYDROGENATION AND BETA-GLUCURONIDASE IN REGENERATING RAT LIVER.
WILLIAMS DC.
Biochem Pharmacol. 1964 Apr;13:559-68. doi: 10.1016/0006-2952(64)90042-5.
PMID: 14191862 No abstract available.

77 A flavoprotein monooxygenase that catalyses a Baeyer-Villiger reaction and thioether oxidation using NADH as the nicotinamide cofactor.
Jensen CN, Cartwright J, Ward J, Hart S, Turkenburg JP, Ali ST, Allen MJ, Grogan G.
Chembiochem. 2012 Apr 16;13(6):872-8. doi: 10.1002/cbic.201200006. Epub 2012 Mar 13.
PMID: 22416037

78 Regulation of coenzyme utilization by bovine liver glutamate dehydrogenase: investigations using thionicotinamide analogues of NAD and NADP in a dual wavelength assay.
Male KB, Storey KB.
Int J Biochem. 1982;14(12):1083-9. doi: 10.1016/0020-711x(82)90165-3.
PMID: 7173489

79 Competition between C-terminal tyrosine and nicotinamide modulates pyridine nucleotide affinity and specificity in plant ferredoxin-NADP(+) reductase.
Piubelli L, Aliverti A, Arakaki AK, Carrillo N, Ceccarelli EA, Karplus PA, Zanetti G.
J Biol Chem. 2000 Apr 7;275(14):10472-6. doi: 10.1074/jbc.275.14.10472.
PMID: 10744737 Free article.

80 The first crystal structure of a thioacylenzyme intermediate in the ALDH family: new coenzyme conformation and relevance to catalysis.
D'Ambrosio K, Pailot A, Talfournier F, Didierjean C, Benedetti E, Aubry A, Branlant G, Corbier C.
Biochemistry. 2006 Mar 7;45(9):2978-86. doi: 10.1021/bi0515117.
PMID: 16503652

81 Induced fit and equilibrium dynamics for high catalytic efficiency in ferredoxin-NADP(H) reductases.
Paladini DH, Musumeci MA, Carrillo N, Ceccarelli EA.
Biochemistry. 2009 Jun 23;48(24):5760-8. doi: 10.1021/bi9004232.
PMID: 19435322

82 A biomimetic electrocatalytic system for the atom-economical chemoselective synthesis of secondary amines.
Largeron M, Fleury MB.
Org Lett. 2009 Feb 19;11(4):883-6. doi: 10.1021/ol802885b.
PMID: 19173617

83 Enzymatic redox cofactor regeneration in organic media: functionalization and application of glycerol dehydrogenase and soluble transhydrogenase in reverse micelles.
Ichinose H, Kamiya N, Goto M.
Biotechnol Prog. 2005 Jul-Aug;21(4):1192-7. doi: 10.1021/bp0500765.
PMID: 16080701

84 Characterization of pyridine nucleotide coenzymes in the hyperthermophilic archaeon Pyrococcus furiosus.
Pan G, Verhagen MF, Adams MW.
Extremophiles. 2001 Dec;5(6):393-8. doi: 10.1007/s007920100216.
PMID: 11778840

85 Design and application of a bi-functional redox biocatalyst through covalent co-immobilization of ene-reductase and glucose dehydrogenase.
Nagy F, Gyujto I, Tasnádi G, Barna B, Balogh-Weiser D, Faber K, Poppe L, Hall M.
J Biotechnol. 2020 Nov 10;323:246-253. doi: 10.1016/j.jbiotec.2020.08.005. Epub 2020 Sep 3.
PMID: 32891641

86 Flavoenzymes for biocatalysis.
Hall M.
Enzymes. 2020;47:37-62. doi: 10.1016/bs.enz.2020.05.001. Epub 2020 Jul 18.
PMID: 32951829 Review.

87 Improved strategies for electrochemical 1,4-NAD(P)H_2 regeneration: A new era of bioreactors for industrial biocatalysis.
Morrison CS, Armiger WB, Dodds DR, Dordick JS, Koffas MAG.
Biotechnol Adv. 2018 Jan-Feb;36(1):120-131. doi: 10.1016/j.biotechadv.2017.10.003. Epub 2017 Oct 10.
PMID: 29030132 Review.

88 Recent trends and novel concepts in cofactor-dependent biotransformations.
Kara S, Schrittwieser JH, Hollmann F, Ansorge-Schumacher MB.
Appl Microbiol Biotechnol. 2014 Feb;98(4):1517-29. doi: 10.1007/s00253-013-5441-5. Epub 2013 Dec 21.
PMID: 24362856

89 Activity of NMN+, nicotinamide ribose and analogs in alcohol oxidation promoted by horse-liver alcohol dehydrogenase. Improvement of this activity and structural requirements of the pyridine nucleotide part of the NAD+ coenzyme.
Sicsic S, Durand P, Langrené S, Le Goffic F.
Eur J Biochem. 1986 Mar 3;155(2):403-7. doi: 10.1111/j.1432-1033.1986.tb09505.x.
PMID: 2937634 Free article.

90 High-Throughput Screening of Coenzyme Preference Change of Thermophilic 6-Phosphogluconate Dehydrogenase from NADP(+) to NAD(.).
Huang R, Chen H, Zhong C, Kim JE, Zhang YH.
Sci Rep. 2016 Sep 2;6:32644. doi: 10.1038/srep32644.
PMID: 27587230 Free PMC article.

91 Evolution of Glucose Dehydrogenase for Cofactor Regeneration in Bioredox Processes with Denaturing Agents.
Qian WZ, Ou L, Li CX, Pan J, Xu JH, Chen Q, Zheng GW.
Chembiochem. 2020 Sep 14;21(18):2680-2688. doi: 10.1002/cbic.202000196. Epub 2020 Jun 4.
PMID: 32324965

92 Full-time dynamics of batch-wise enzymatic cycling system composed of two kinds of dehydrogenase mediated by NAD(P)H for mass production of chiral hydroxyl compounds.
Yamane T.
J Biosci Bioeng. 2019 Sep;128(3):337-343. doi: 10.1016/j.jbiosc.2019.03.004. Epub 2019 Apr 5.
PMID: 30956102

93 Profiling Redox and Energy Coenzymes in Whole Blood, Tissue and Cells Using NMR Spectroscopy.

Gowda GAN.
Metabolites. 2018 May 14;8(2):32. doi: 10.3390/metabo8020032.
PMID: 29757993 Free PMC article. Review.

94 High fructose-containing drinking water-induced steatohepatitis in rats is prevented by the nicotinamide-mediated modulation of redox homeostasis and NADPH-producing enzymes.
Loza-Medrano SS, Baiza-Gutman LA, Manuel-Apolinar L, García-Macedo R, Damasio-Santana L, Martínez-Mar OA, Sánchez-Becerra MC, Cruz-López M, Ibáñez-Hernández MA, Díaz-Flores M.
Mol Biol Rep. 2020 Jan;47(1):337-351. doi: 10.1007/s11033-019-05136-4. Epub 2019 Oct 24.
PMID: 31650383

95 [Interaction of muscle glycogen phosphorylase b with nicotinic acid, nicotinamide, N-nicotinyl-gamma-aminobutyric acid and nicotinamide coenzymes].
Klinova NI, Chebotareva NA, Klinov SV, Kurganov BI, Bulanova LN.
Bioorg Khim. 1987 Oct;13(10):1338-43.
PMID: 2963642 Russian.

96 Coenzyme Binding Site Analysis of an Isopropanol Dehydrogenase with Wide Substrate Spectrum and Excellent Organic Solvent Tolerance.
Jiang W, Fang BS.
Appl Biochem Biotechnol. 2020 Jan;190(1):18-29. doi: 10.1007/s12010-019-03091-1. Epub 2019 Jul 12.
PMID: 31301008

97 Cofactor Specificity Switch on Peach Glucitol Dehydrogenase.
Hartman MD, Minen RI, Iglesias AA, Figueroa CM.
Biochemistry. 2019 Mar 5;58(9):1287-1294. doi: 10.1021/acs.biochem.8b01240. Epub 2019 Feb 18.
PMID: 30726068

98 [Nicotinamide coenzymes in the regulation of cellular metabolism in various types of diabetes].
Velikiĭ NN, Obrosova IG, Efimov AS, Babicheva EI, Sokil OP.
Vopr Med Khim. 1992 Jul-Aug;38(4):45-52.
PMID: 1462505 Russian.

99 A conserved flavin-shielding residue regulates NO synthase electron transfer and nicotinamide coenzyme specificity.
Adak S, Sharma M, Meade AL, Stuehr DJ.
Proc Natl Acad Sci U S A. 2002 Oct 15;99(21):13516-21. doi: 10.1073/pnas.192283399. Epub 2002 Oct 1.
PMID: 12359874 Free PMC article.

100 Creating enzymes and self-sufficient cells for biosynthesis of the non-natural cofactor nicotinamide cytosine dinucleotide.
Wang X, Feng Y, Guo X, Wang Q, Ning S, Li Q, Wang J, Wang L, Zhao ZK.
Nat Commun. 2021 Apr 9;12(1):2116. doi: 10.1038/s41467-021-22357-z.
PMID: 33837188 Free PMC article.

101 Mutation of nicotinamide pocket residues in rat liver 3 alpha-hydroxysteroid dehydrogenase reveals different modes of cofactor binding.
Ma H, Ratnam K, Penning TM.
Biochemistry. 2000 Jan 11;39(1):102-9. doi: 10.1021/bi991659o.
PMID: 10625484

102 The vanadate-stimulated oxidation of NAD(P)H by biomembranes is a superoxide-initiated free radical chain reaction.
Liochev S, Fridovich I.
Arch Biochem Biophys. 1986 Oct;250(1):139-45. doi: 10.1016/0003-9861(86)90710-1.
PMID: 3021060

103 A Versatile Chemoenzymatic Nanoreactor that Mimics NAD(P)H Oxidase for the In Situ Regeneration of Cofactors.
Rodriguez-Abetxuko A, Reifs A, Sánchez-deAlcázar D, Beloqui A.
Angew Chem Int Ed Engl. 2022 Sep 26;61(39):e202206926. doi: 10.1002/anie.202206926. Epub 2022 Jul 13.
PMID: 35762738 Free PMC article.

104 Protein cost minimization promotes the emergence of coenzyme redundancy.
Goldford JE, George AB, Flamholz AI, Segrè D.
Proc Natl Acad Sci U S A. 2022 Apr 5;119(14):e2110787119. doi: 10.1073/pnas.2110787119. Epub 2022 Mar 28.
PMID: 35344442 Free PMC article.

105 Enzymatic cofactor regeneration systems: A new perspective on efficiency assessment.
Bachosz K, Zdarta J, Bilal M, Meyer AS, Jesionowski T.
Sci Total Environ. 2023 Apr 10;868:161630. doi: 10.1016/j.scitotenv.2023.161630. Epub 2023 Jan 16.
PMID: 36657682 Review.

106 New developments in 'ene'-reductase catalysed biological hydrogenations.
Toogood HS, Scrutton NS.
Curr Opin Chem Biol. 2014 Apr;19:107-15. doi: 10.1016/j.cbpa.2014.01.019. Epub 2014 Mar 6.

PMID: 24608082 Review.

107 Discovery, Characterisation, Engineering and Applications of Ene Reductases for Industrial Biocatalysis.
Toogood HS, Scrutton NS.
ACS Catal. 2019 May 15;8(4):3532-3549. doi: 10.1021/acscatal.8b00624. Epub 2018 Mar 20.
PMID: 31157123 Free PMC article.

108 Nonconventional regeneration of redox enzymes - a practical approach for organic synthesis?
Zhang W , Hollmann F .
Chem Commun (Camb). 2018 Jun 28;54(53):7281-7289. doi: 10.1039/c8cc02219d.
PMID: 29714371

109 Learning lessons from nature - the future of biomimetics: general discussion.
Anderson M, Bennett M, Cedeno R, Ford I, Fukuma T, Kuttner C, Maini L, Meldrum F, Nilsson Lill SO, Nudelman F, Rietveld IB, Roberts K, Sefcik J, Sun W, Vekilov P, Zhao R.
Faraday Discuss. 2022 Jul 14;235(0):562-568. doi: 10.1039/d2fd90024f.
PMID: 35770684 No abstract available.

110 Hydrogen-bonded organic framework biomimetic entrapment allowing non-native biocatalytic activity in enzyme.
Chen G, Tong L, Huang S, Huang S, Zhu F, Ouyang G.
Nat Commun. 2022 Aug 16;13(1):4816. doi: 10.1038/s41467-022-32454-2.
PMID: 35974100 Free PMC article.

111 Nature efficient approach; Application of biomimetic nanocomposites in burn injuries.
Mobayen M, Feizkhah A, Mirmasoudi SS, Bejarpasi ZP, Bejarbane EJ, Habibiroudkenar P, Toolaroud PB.
Burns. 2022 Sep;48(6):1525-1526. doi: 10.1016/j.burns.2022.06.020. Epub 2022 Jul 8.
PMID: 35842269 No abstract available.

112 Engineering Glucose Dehydrogenase to Favor Totally Synthetic Biomimetic Cofactors Containing Carboxyl Group.
Zhou J, Gu X, Zhu Y, Tao Z, Ni Y.
Chembiochem. 2023 Aug 1;24(15):e202300066. doi: 10.1002/cbic.202300066. Epub 2023 Jul 12.
PMID: 37132452

113 Editorial: Computational data-driven design and modeling of biomolecules and biomimetics.
Zheng J, Nurit H, Zhang L, Wei T, Shao Q.
Biophys Chem. 2022 Oct;289:106877. doi: 10.1016/j.bpc.2022.106877. Epub 2022 Aug 18.
PMID: 36007359 No abstract available.

114 Biomimetics: from biological cells to battery cells.
Li D, Ci L.
Sci Bull (Beijing). 2021 Jun 15;66(11):1054-1055. doi: 10.1016/j.scib.2021.02.036. Epub 2021 Mar 2.
PMID: 36654337 No abstract available.

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