

Mitchell Goldfarb · All Publications · h-index = 63 · (updated 12/29/23)

87. Marra, C., Hartke, T., Ringkamp, M., Goldfarb, M. (2023) Enhanced sodium channel inactivation by temperature and FHF2 deficiency blocks heat nociception. **Pain** 164, 1321-1331.

(ti)

*mes cited: 2)*

86. Santucci, J., Park, D.S., Shekhar, A., Lin, X., Bu, L., Yamaguchi, N., Mintz, S., Chang, E.W., Khodadi-Jamayran, A., Redel-Traub, G., Goldfarb, M., Fishman, G.I. (2022) Contrasting ionic mechanisms of impaired conduction in FHF1- and FHF-2 deficient hearts. **Circulation: Arrhythmia and Electrophysiology**

15, e011296.

*(times cited: 2)*

85. Veliskova, J., Marra, C., Liu, Y., Shekhar, A., Park, D.S., Iatckova, V., Xie, Y., Fishman, G.I., Velisek, L., Goldfarb, M. (2021) Early-onset epilepsy and SUDEP with cardiac arrhythmia in mice carrying the EIEE47 gain-of-function *Fhf1*(*Fgf12*) missense mutation. **Epilepsia** 62, 1546-1558.

(times cited: 13)

84. Fry, A.E., Marra, C., 18 others, Goldfarb, M., Chung, S.-K. (2021) Missense variants in the N-terminal domain of the A isoform of FHF2/FGF13 cause an X-linked infantile onset developmental and epileptic encephalopathy. **Am. J. Hum. Genet.** 108, 176-185. (times cited: 18)



83. Park, D.S., Shekhar, A., Santucci, J., Redel-Traub, G., Solinas, S.M.G., Mintz, S., Lin, X., Chang, E.W., Narke, D., Xia, Y., Goldfarb, M., Fishman, G.I. (2020) Ionic mechanisms of impulse propagation failure in the FHF2-deficient heart. **Circ. Res.** 127, 1536-1548. (*times cited: 6*)

82. Soda, T., Mapelli, L., Locatelli, F., Botta, L., Goldfarb, M., Prestori, F., D'Angelo, E.M. (2019) Hyperexcitability and hyperplasticity disrupt cerebellar signal transfer in the IB2 KO mouse model of autism. **J. Neurosci.** 39, 2383-2397. (*times cited: 27*)

81. Nandi, S., Gutin, G., Blackwood, C., Kamatkar, M., Lee, K., Fishell, G., Wang, F., Goldfarb, M., Hebert, J.M. (2017) FGF-dependent, context-driven role for FRS adapters in the early telencephalon. **J. Neurosci.** 37, 5690-5698. (*times cited: 11*)

80. Park, D., Shekhar, A., Marra, C., Lin X., Vasquez, C., Solinas, S., Kelley, K., Morley, G., Goldfarb, M., Fishman, G.I. (2016) *Fhf2* gene deletion causes temperature-sensitive cardiac

conduction failure.  
*s cited: 38)*

**Nature Commun.** 7, 12966. (*time*

79. Dover, K., Marra, C., Solinas, S., Popovic, M., Subramaniyam, S., Zecevic, D., D'Angelo, E., Goldfarb, M. (2016) FHF-independent conduction of action potentials along the leak-resistant cerebellar granule cell axon. **Nature Commun.** 7, 12895. (*times cited: 27*)

78. Siekierska, A., Isrie, M., Liu, Y., Scheldeman, C., Vanthill, N., Lagae, L., de Witte, P.A.M., Van Esch, H., Goldfarb, M., Buyse, G. (2016) Gain-of-function FHF missense mutation causes early-onset epileptic encephalopathy with cerebellar atrophy. **Neurology** 86, 2162-2170. (*time s cited: 70*)

77. Venkatesan, K., Liu, Y., Goldfarb, M. (2014) Fast-onset long-term open-state block of sodium channels by A-type FHF mediates classical spike accommodation in hippocampal pyramidal neurons. **J. Neurosci.** 34, 16126-16139. (*times cited: 46*)

76. Goldfarb, M. (2012) Voltage gated sodium channel associated proteins and alternative mechanisms of inactivation and block. **Cell. Molec. Life Sci.** 69, 1067-1076. (*times cited:* 71)

75. Dover, K., Solinas, S., D'Angelo, E., and Goldfarb, M. (2010) Long-term inactivation particle for voltage-gated sodium channels. **J. Physiology** (London) 588, 2695-2711. (*times cited: 91*)
74. Giza, J., Urbanski, M.J., Prestori, F., Bandhyopadhyay, B., Yam, A., Friedrich, V., Kelley, K., D'Angelo, E. and Goldfarb, M. (2010) Behavioral and cerebellar transmission deficits in mice lacking the autism-linked gene islet brain-2. **J. Neurosci.** 30, 14805-14816. (*times cited: 75*)
73. Diwakar, S., Magistretti, J., Goldfarb, M., Naldi, G., and D'Angelo, E. (2009) Axonal sodium

channels ensure fast spike activation and back-propagation in cerebellar granule cells. **J. Neurophysiol.** 101, 519-532.  
*(times cited: 144)*

72. Goetz, R., Dover, K., Laezza, F., Shtraizent, N., Huang, X., Tchetchik, D., Eliseenkova, A.V., Xu, C.-F., Neubert, T.A., Ornitz, D.M., Goldfarb, M., Mohammadi, M. (2009) Crystal structure of FHF2 unveils a conserved binding site on FHF<sub>s</sub> for the C-terminal domain of voltage-gated sodium channels. **J.Biol. Chem.** 284, 17883-17896. *(times cited: 155)*

71. Goldfarb, M. (2008) "Real Cancer Genes", pgs 175-179. In "Life Illuminated", Cold Spring Harbor Press; J. Witkowski, A Gann, J. Sambrook, Eds.

70. Goldfarb, M., Schoorlemmer, J., Williams, A., Diwakar, S., Wang, Q., Huang, X., Giza, J., Tchetchik, D., Kelley, K., Vega, A., Matthews, G., Rossi, P., Ornitz, D.M., D'Angelo, E. (2007) FHF<sub>s</sub> control neuronal excitability through modulation of voltage gated sodium channels. **Neuron** 55, 449-463.  
*(times cited: 288)*

69. Goldfarb, M. (2005) Fibroblast growth factor homologous factors: evolution, structure, and function. **Cytokine Growth Factor Rev.** 16, 215-220. *(times cited: 257)*

68. Wittmack, E.K., Rush, A.M., Craner, M.J., Goldfarb, M., Waxman, S.G. and Dib-Hajj, S. (2004) Association of FHF2B and voltage-gated sodium channel Nav1.6 in vitro and in vivo: functional implications. **J. Neurosci.** 24:6765-6775. (*times cited: 151*)

67. Olsen, S., Garbi, M., Zampieri, N., Eliseenkova, A.N., Ornitz, D.M., Goldfarb, M. and Mohammadi, M. (2003) FHF<sub>s</sub> share structural but not functional homology to FGF<sub>s</sub>. **J. Biol. Chem.** 278, 34226-34236.  
*(times cited: 363)*

66. Schoorlemmer, J. and Goldfarb, M. (2002) FGF homologous factors and the islet brain-2 scaffold protein regulate activation of a stress-activated protein kinase. **J. Biol. Chem.** 277, 49111-49119.  
*(times cited: 120)*

65. Yan, K.S., Kuti, M., Yan, S., Farooq, A., Goldfarb, M.P., and Zhou, M.-M. (2002) FRS2 PTB domain conformation regulates interactions with divergent neurotrophic receptors. **J. Biol. Chem.** 277, 17088-17094.  
*(times cited: 46)*

64. Goldfarb, M. (2001) Signaling by fibroblast growth factors: the inside story. **Science's STKE** 106/pe3  
8.  
*(time cited: 102)*

63. Schoorlemmer, J. and Goldfarb, M. (2001) Fibroblast growth factor homologous factors are intracellular signalling proteins. **Curr. Biol.** 11, 793-797. *(times cited: 156)*

62. Xu, H. and Goldfarb, M. (2001) Multiple effector domains within SNT-1 coordinate ERK activation and neuronal differentiation of PC12 cells. **J. Biol. Chem.** 276, 13049-13056. (*times cited: 47*)

61. Hama, J., Xu, H., Goldfarb, M., and Weinstein, D.C. (2001) SNT-1/FRS2alpha physically interacts with Laloo and mediates mesoderm induction by fibroblast growth factor. **Mech. Dev.** 109, 195-204.  
*(times cited: 20)*

60. Dhalluin, C., Yan, K., Plotnikova, O., Lee, K.W., Zeng, L., Kuti, M., Mujtaba, S., Goldfarb, M., and Zhou, M.-M. (2000) Structural basis of SNT PTB domain interactions with distinct neurotrophic receptors. **Mol. Cell** 6, 921-929. (*times cited: 138*)

59. Jung, J., Zheng, M., Goldfarb, M., and Zaret, K. (1999) Initiation of mammalian liver development from endoderm by fibroblast growth factors. *Science* 284, 1998-2003. (*times cited: 922*)
58. Colvin, J.S., Feldman, B., Nadeau, J.H., Goldfarb, M., and Ornitz, D.M. (1999) Genomic organization and embryonic expression of the mouse fibroblast growth factor 9 gene. **Dev. Dyn.**

. 216, 72-88.  
*(times cited: 268)*

57. Xu, H., Lee, K.W., and Goldfarb, M. (1998) (Communication) Novel recognition motif on FGF receptor mediates direct association and activation of SNT adaptor proteins. **J.Biol. Chem.** 273, 17987-17990.  
*(times cited: 217)*

56. Hartung, H., Feldman, B., Lovec, H., Coulier, F., Birnbaum, D., and Goldfarb, M. (1997) Murine FGF-12 and FGF-13: expression in embryonic nervous system, connective tissue and heart. **Mech. Dev.** 64(1,2), 31-39. (*times cited: 151*)

55. Shrivastava, A., Radziejewski, C., Campbell, E., Kovac, L., McGlynn, M., Ryan, T.E., Davis, S., Goldfarb, M.P., Lemke, G., and Yancopoulos, G.D. (1997) An orphan receptor tyrosine kinase family whose members serve as nonintegrin collagen receptors. **Mol. Cell** 1, 25-34. (*times cited: 630*)
54. Lovec, H., Hartung, H., Verdier, A.S., Mattei, M.G., Birnbaum, D., Goldfarb, M., and Coulier,

F. (1997) Assignment of FGF13 to human chromosome band Xq21 by in situ hybridization. **Cytogenet. Cell Genet.** . 76, 183-184.

53. Hartung, H., Lovec, H., Verdier, A.S., Mattei, M.G., Coulier, F., Goldfarb, M., and Birnbaum, D. (1997) Assignment of Fgf12 to mouse chromosome bands 16B1->B3 by in situ hybridization. **Cytogenet. Cell Genet.** 76, 185-186.

52. Wang, J.K. and Goldfarb, M. (1997) Amino acid residues which distinguish the mitogenic potentials of two FGF receptors. **Oncogene** 14, 1767-1778. (*times cited: 41*)

51. Verdier, A.S., Mattei, M.G., Lovec, H., Hartung, H., Goldfarb, M., Birnbaum, D., and Coulier, F. (1997) Chromosomal mapping of two novel human FGF genes, FGF11 and FGF12. **Genomics** 40, 151-154.  
*(times cited: 45)*

50. Coulier, F., Pontarotti, P., Roubin, R., Hartung, H., Goldfarb, M., and Birnbaum, D. (1997) Of worms and men: An evolutionary perspective on the fibroblast growth factor (FGF) and FGF receptor families. **J. Mol. Evol.** 44, 43-56. *(times cited: 281)*

49. Ornitz, D.M., Xu, J., Colvin, J.S., McEwen, D.G., MacArthur, C.A., Coulier, F., Gao, G., and Goldfarb, M. (1996) Receptor specificity of the fibroblast growth factor family. **J. Biol. Chem.** 271, 15292-15297.  
*(times cited: 2,080)*

48. Wang, J.-K., Xu, H., Li, H.-C., and Goldfarb, M. (1996) Broadly expressed SNT-like proteins link FGF receptor stimulation to activators of the Ras pathway. **Oncogene** 13, 721-729.  
*(times cited: 129)*

47. Valenzuela, D.M., Rojas, E., Griffiths, J.A., Compton, D.L., Gisser, M., Ip, N.Y., Goldfarb, M., and Yancoupolos, G.D. (1996) Identification of full-length and truncated forms of EHK-3, a novel member of the EPH receptor tyrosine kinase family. **Oncogene** 10, 1573-1580. (*times cited: 72*)

46. Gao, G. and Goldfarb, M. (1995) Heparin can activate a receptor tyrosine kinase. **EMBO J** . 14, 2183-2190.  
*(times cited: 133)*

45. Stitt, T.N., 15 others, Long, G.L., Basilico, C., Goldfarb, M., Lemke, G., Glass, D.J., and Yancopoulos, G.D. (1995) The anticoagulation factor Protein S and its relative Gas6 are ligands for the Tyro3/Axl family of receptor tyrosine kinases. **Cell** 80, 661-670. (*times cited: 871*)

44. Feldman, B., Poueymirou, W., Papaioannou, V., DeChiara, T., and Goldfarb, M. (1995) Requirement of FGF-4 for post-implantation mouse development. **Science** 267, 246-249. (*times cited: 924*)

43. Davis, S.D., Gale, N., Aldrich, T., Maisonpierre, P., Lhotak, V., Pawson, T., Goldfarb, M., and Yancopoulos, G.D. (1994) A family of surface-bound ligands for EPH-related receptors that require clustering for activity as soluble factors. **Science** 266, 816-819. (*times cited: 952*)

42. Hantzopoulos, P.A., Suri, C., Glass, D.J., Goldfarb, M.P., and Yancopoulos, G.D. (1994) **N euron** 13, 187-201.  
*(times cited: 374)*

41. Wang, J.-K, Gao, G., and Goldfarb, M. (1994) Fibroblast growth factor receptors have different signaling and mitogenic potentials. **Mol. Cell. Biol.** 14, 181-188. (*times cited: 276*)

40. Conover, J.C., Ip, N.Y., Poueymirou, W.T., Bates, B., Goldfarb, M.P., DeChiara, T.M., and Yancopoulos, G.D. (1993) Ciliary neurotrophic factor maintains pluripotentiality of murine embryonic stem cells. **Development** 119, 559-565. (*times cited: 173*)
39. Maisonpierre, P., Goldfarb, M., Yancopoulos, G.D., and Gao, G. (1993) Distinct rat genes with related profiles of expression define a TIE receptor tyrosine kinase family. **Oncogene** 8, 1631-1637.  
(*times cited: 188*)

38. Zerlin, M., Julius, M.S., and Goldfarb, M. (1993) NEP - a novel receptor-like tyrosine kinase expressed in proliferating neuroepithelia. **Oncogene** 10, 2731-2739. (*times cited: 89*)

37. Clements, D.A., Wang, J.K., Dionne, C.A., and Goldfarb, M. (1993) Activation of fibroblast growth factor (FGF) receptors by recombinant human FGF-5. **Oncogene** 8, 1311-1316. (*times cited: 62*)

36. Drucker, B.J., and Goldfarb, M. (1993) Murine FGF-4 gene expression is spatially restricted within embryonic skeletal muscle and other tissues. **Mech. Dev.** 40, 155-163. (*times cited: 73*)

35. Hughes, R.A., Sendtner, M., Goldfarb, M., Lindholm, D., and Thoenen, H. (1993) Evidence that fibroblast growth factor-5 is a major muscle-derived survival factor for cultured spinal motoneurons. **Neuron** 10, 369-377. (*times cited: 163*)

34. Werner, S., Roth, W.K., Bates, B., Goldfarb, M., and Hofsneider, P.H. Fibroblast growth factor 5 protooncogene is expressed in human fibroblasts and induced by serum growth factors. (1991) **Oncogene** 6, 2137-2144. (*times cited: 26*)

33. Glass, D.J., Nye, S.H., Hantzopoulos, P., Macchi, M.J., Squinto, S.P. Goldfarb, M., and Yancopoulos, G.D. (1991) TrkB mediates BDNF/NT-3-dependent survival and proliferation in fibroblasts lacking the low-affinity NGF receptor. **Cell** 66, 405-413. (*times cited: 361*)

32. Haub, O. and Goldfarb, M. (1991) Expression of the fibroblast growth factor 5 gene in the mouse embryo. **Development** 112, 397-406. (*times cited: 329*)

31. Bates, B., Hardin, J., Zhan, X., Drickamer, K. and Goldfarb, M. (1991) Biosynthesis of human fibroblast growth factor-5. **Mol. Cell. Biol.** 11, 1840-1845. (*times cited: 99*)

30. Goldfarb, M., Deed, R., MacAllan, D., Walther, W., Dickson, C., and Peters. G. (1991) Cell transformation by INT-2 - A member of the fibroblast growth factor family. **Oncogene** 6, 65-71. (*times cited: 58*)

29. Goldfarb, M. (1990) The fibroblast growth factor family. **Cell Growth Differ.** 1, 439-445. (*times cited: 274*)

28. Haub, O., Drucker, B.J., and Goldfarb, M. (1990) Expression of the murine fibroblast growth factor-5 gene in the adult central nervous system. **Proc. Natl. Acad. Sci. USA** 87, 8022-8026.  
*(times cited: 119)*

27. Hebert, J.M., Basilico, C., Goldfarb, M., Haub, O., and Martin, G.R. (1990) Isolation of cDNAs encoding four mouse FGF family members and characterization of their expression patterns during embryogenesis. **Dev. Biol.** 138, 454-463. (*times cited: 314*)

26. Theillet, C., Leroy, X., DeLapeyriere, O., Grosgeorges, J., Adnane, J., Raynaud, S.D., Simonlafontaine, J., Goldfarb, M., Escot, C., Birnbaum, D., and Gaudray, P. (1989) Amplification of FGF-related genes in human tumors - Possible involvement of HST in human breast carcinomas. **Oncogene** 4, 915-922. (*times cited: 193*)

25. Rees-Jones, R.W., Goldfarb, M., and Goff, S.P. (1989) Abelson murine leukemia virus induces platelet-derived growth factor-independent fibroblast growth: correlation with kinase activity and dissociation from full morphological transformation. **Mol. Cell. Biol.** 9, 278-287. (*times cited: 12*)

24. Nguyen, C., Roux, D., Mattei, M.G., de Lapeyriere, O., Goldfarb, M., Birnbaum, D., and Jordan, B.R. (1988) The FGF-related oncogenes hst and int-2, and the bcl-1 locus are located within one megabase in band q13 of chromosome 11, while the fgf-5 oncogene maps to 4q21.

**Oncogene**

3, 703-708.

(times cited: 71)

23. Zhan, X., Bates, B., Hu, X., and Goldfarb, M. (1988) The FGF-5 oncogene encodes a novel protein related to fibroblast growth factors. **Mol. Cell. Biol.** 8, 3487-3495. (times cited: 556)

22. Cavalieri, F., and Goldfarb, M. (1988) N-myc protooncogene expression can induce DNA synthesis in Balb/c 3T3 fibroblasts. **Oncogene** 2, 289-291. (*times cited: 28*)

21. Zhan, X., Culpepper, A., Reddy, M., Loveless, J., and Goldfarb, M. (1987) Human oncogenes detected by a defined medium culture assay. **Oncogene** 1, 369-376. (*times cited: 88*)

20. Cavalieri, F., and Goldfarb, M. (1987) Growth factor-deprived Balb/c 3T3 murine fibroblasts can enter the S phase following induction of c-myc gene expression. **Mol. Cell. Biol.** 7, 3554-3560.

(*times cited: 61*)

19. Zhan, X. and Goldfarb, M.P. (1986) Growth factor requirements of oncogene-transformed NIH and Balb/c 3T3 cells cultured in defined media.. **Mol. Cell. Biol.** 6, 3541-3544. (*times cited: 84*)

18. Yancopoulos, G.D., Nisen, P.D., Tesfaye, A., Kohl, N.E., Goldfarb, M.P., and Alt, F.W. (1985) N-myc can cooperate with ras to transform normal cells in culture. **Proc. Natl. Acad. Sci. USA** 82, 5455-5459.  
*(times cited: 233)*

17. Gross M, Sweet RW, Sathe G, Yokoyama S, Fasano O, Goldfarb M, Wigler M, Rosenberg M. (1985) Purification and characterization of human H-ras proteins expressed in E. coli. **Mol. Cell. Biol.** 10, 515-524.  
*(times cited: 116)*

16. Kataoka T, Powers S, Cameron S, Fasano O, Goldfarb M, Broach J, Wigler M. (1985) Functional homology of mammalian and yeast RAS proteins. **Cell** 40, 19-26. (*times cited: 394*)

15. Powers S, Kataoka T, Fasano O, Goldfarb M, Strathern J, Broach J, Wigler M. (1984) Genes in *S. cerevisiae* encoding proteins with domains homologous to the mammalian ras proteins. **Cell** 36, 607-612. (*times cited: 515*)
14. Barker D, McCoy, M, Weinberg R, Goldfarb M, Wigler M, Burt R, Gardner E, White R. (1983) A test of the role of two oncogenes in inherited predisposition to colon cancer. **Mol. Biol. Med.** 1, 199-206.

13. Taparowsky E, Shimizu K, Goldfarb M, Wigler M. (1983) Structure and activation of the human N-ras gene. **Cell** 34, 581-586. (*times cited: 652*)

12. Shimizu K, Birnbaum D, Ruley MA, Fasano O, Suard Y, Edlund L, Taparowsky E, Goldfarb M, Wigler M. (1983) Structure of the Ki-Ras gene of the human lung carcinoma cell line Calu-1. **Nature** 304, 497-500. (*times cited: 442*)

11. Shimizu K, Goldfarb M, Suard Y, Perucho M, Li Y, Kamata T, Feramisco J, Stavnezer E, Fogh J, Wigler MH. (1983) Three human transforming genes are related to the viral ras oncogenes. **Proc. Natl. Acad. Sci. USA** 80, 2112-2116. (*times cited: 533*)

10. Fasano O, Taparowsky E, Fiddes J, Wigler M, Goldfarb M. (1983) Sequence and structure of the coding region of the human H-ras-1 gene from the T24 bladder carcinoma cell line. **J. Mol. Appl. Genet.**  
2, 173-180.

9. Shimizu K, Goldfarb M, Perucho M, Wigler M. (1983) Isolation and preliminary characterization of the transforming gene from a human neuroblastoma cell line. **Proc. Nat. Acad. Sci. USA** 80, 383-387.  
*(times cited: 408)*

8. Taparowsky, E., Suard, Y., Fasano, O., Shimizu, K., Goldfarb, M. and Wigler, M. (1982) Activation of the T24 bladder carcinoma transforming gene is linked to a single amino acid change. **Nature** 300, 762-765. (*times cited: 874*)

7. Goldfarb, M., Shimizu, K., Perucho, M. and Wigler, M. (1982) Isolation and preliminary characterization of a human transforming gene from T24 bladder carcinoma cells. **Nature** 296, 404-409.  
(*times cited: 662*)

6. Perucho, M., Goldfarb, M.P., Shimizu, K., Lama, C., Fogh, J. and Wigler, M.H. (1981) Human tumor-derived cell lines contain common and different transforming genes. **Cell** 27, 467-476.  
*(times cited: 594)*

5. Goldfarb, M.P. and Weinberg, R. A. (1981) Generation of novel, biologically active Harvey sarcoma viruses via apparent illegitimate recombination. **J. Virol.** 38, 136-150. (*times cited: 120*)

4. Goldfarb, M.P. and Weinberg, R.A. (1981) Structure of the provirus within NIH3T3 cells transfected with the Harvey sarcoma virus DNA. **J. Virol.** 38, 125-135 (*times cited: 33*)

3. Shih, C., Shilo, B.-A., Goldfarb, M.P., Dannenberg, A. and Weinberg, R.A. (1979) Passage of phenotypes of chemically transformed cells via transfection of DNA and chromatin. **Proc. Natl. Acad. Sci. USA** 76, 5714-5718.  
*(times cited: 701)*

2. Goldfarb, M.P. and Weinberg, R.A. (1979) Physical map of biologically active Harvey sarcoma virus unintegrated viral DNA. **J. Virol.** 32, 30-39. *(times cited: 27)*

1. Andersson, P., Goldfarb, M.P. and Weinberg, R.A. (1979) A defined subgenomic fragment of in vitro synthesized Moloney sarcoma virus DNA can induce cell transformation upon transfection. **Cell** 16, 63-75. (*times cited: 222*)

