

Curriculum Vitae



Last name: Fazel

Name: Alireza

Date of Birth: January 26, 1947

Academic Status:

Full Professor of anatomy and cell biology. Department of Anatomy & Cell biology, Mashhad University of Medical Sciences. Mashhad Iran

h-index **12**

I -10- index **13**

Education:

PhD in Anatomy & Cell Biology (with distinction), Georgetown University, Washington D.C., 1985

Post doctoral training in cell biology and histochemistry. Medical school of South Carolina, Charleston South Carolina, 1988.

Experiences:

Over 30 years of experience as an educator, supervisor, and research scientist in medically related areas of anatomical sciences. Teaching experience has spanned the health sciences area of gross anatomy, neuroanatomy, embryology, cell biology and histochemistry at Georgetown University, Medical University of South Carolina and Mashhad University of Medical Sciences. All these courses have been conducted for MD., dental, PhD, MS., students as well as different residents. While conducting research in developmental biology with specific emphasis on lectin histochemistry and teratology, have investigated the effects of various agents, e.g. Cigarette smoke, phenytoin, nicotine, morphine and ethanol on fetal mouse development as a consequence of maternal exposure. Have also shown that a combination of exposure of cigarette smoke and ethanol to the mother resulted in more than additive effect on cardiac defects and on limb, in developing mice. Research interest have focused on critical stages in embryonic and fetal development that are especially sensitive to teratogenic agents, either alone or in combination with other agent.

Current research at the Mashhad University of the Medical Sciences is in the field of developmental histochemistry. I am using a battery of horseradish peroxidase- lectins as a probe to characterize the unique structure of the cell surface glycoconjugates of embryonic cells, and also changes in their composition during development, as well as after exposure to different teratogens.

Honors and Awards:

B.Bhussry Memorial Fellowship

American Histochemical Society/Vector Laboratories Outstanding Young Investigator Award Histochemistry

First award for best presentation in the First Scientific Meeting against Narcotics, Tehran.

Publications:

Over 120 articles have been published in the field of developmental biology in domestic (Persian) and international journals. Few books also have been translated and published from English to Persian.

1. **Fazel, A.R.** and Sulik, K.K. (1980). Phenytoin - induced cardiac malformations in A/J mice. *Teratology*, 21 (2): 37A-37A
2. **Fazel, A.R.**; Sulik, K.K.; Goeringer, G.C. and Hepner, S.I. (1981). Cardiac malformations in A/J mice induced by phenytoin. *Pediatric Research*, 15: 643A
3. **Fazel, A.R.** and Goeringer (1982). Effects of phenytoin and nicotine on mesenchymal cells of cardiac jelly in A/J mice. *J. Cell Biol*, 95 : 63A
4. Goeringer, G.C. and **Fazel, A.R.** (1983). Teratogenic effects of cigarette smoke and alcohol in A/J mice. *Teratology*, 27: 45A
5. **Fazel, A.R.** and Goeringer, G.C. (1983). Cardiateratogenic effects of nicotine and cigarette smoke in A/J mice. *Teratology*, 97 : 40-41A
6. **Fazel, A.R.** and Goeringer, G.C. (1983). Changes in limb bud mesenchymal cells following maternal treatment of A/J mice with both ethanol and cigarette smoke. *J. Cell Biol*, 27 : 560A
7. **Fazel, A.R.** and Goeringer, G.C. (1984). Scanning electron microscopic studies of the extracellular matrix (cardiac jelly)of the developing mouse heart. *Anatomical Record*, 208 : 55A
8. Goeringer, G.C. and **Fazel, A.R.** (1984). A three-dimensional study of looping, septation and valve formation during mouse cardiogenesis. *Anatomical Record*, 208 : 63A
9. **Fazel, A.R.** ; Henley, M. ; Goeringer, G.C. (1985). A spectrum of cardiateratogenic agents affecting the 10th day mouse embryo. *Anatomical Record*, 211(3) : 347-348

10. **Fazel, A.R.** ; Sumida, H. ; Schulte, B.A. and Thompson, R.P. (1985) . *Lectin histochemistry of glycoconjugates in developing heart* J. Cell Biol, 101(5) : 345A
11. **Fazel, A.R.** ; Thompson, R. ; Schulte, B. and Spicer, S. (1986)
Changes in a unique surface glycoconjugates of primordial germ cells during migration in the rat. J. Histochem.Cytochem, 34 : 1363
12. **Fazel, A.R.** ; Thompson, R.P. and Schulte, B.A. (1987). *Distribution of sialic acid in developing rat and chick embryos. Anatomical Record, 218 : 43A*
13. Alles, A.J. ; **Fazel, A.R.** ; Spicer, S. S. and Dom, R.M. (1987)
Glycoconjugate pattern in the developing retina. Anatomical Record,218 : 7A
14. **Fazel, A.R.** ; Schulte, B.A. ; Thompson, R.P. and Spicer, S.S. (1987) Presence of unique glycoconjugate on the surface of rat primordial germ cells during migration. *Cell Differentiation, 21 : 199-211*
15. Alles, A.J. ; **Fazel, A.R.** ; Spicer, S.S. ; Dom, R.M. (1987)
Detection of glycoconjugates in the developing optic vesicle. J. Histochem. Cytochem. 35 : 1020
16. **Fazel, A.R.** ; Schulte, B.A. ; Thompson, R.P. and Spicer, S.S . (1988).
Histochemistry of glycoconjugates that are unique to an embryo or certain embryonic structures but differ with genera.J. Histochem. Cytochem, 36: 870
17. Alles A., Fazel a., Spicer S., Dom R. (1990). *Distribution of glycoconjugates in the optic vesicle and optic cup. Anatomy and embryology 182(6): 611-616*
18. Jalali, M; **Fazel, A.R.** (2001) Hypervitaminosis A-induced central nervous system defects. In: scientific program and abstracts of 45th annual scientific meeting, Uppsala, Sweden: 17
19. **Fazel, A.R.** ; Jalali, M. (2001) Morphine-induced central nervous defects in mice. *Teratology, 63(6): 54*
20. **Fazel, A.R.** ; Jalali, M. (2001) Oculotertogenic and related effects of opioid drug in embryonic development in mice. *Teratology, 63 (6): 55*
21. **Fazel, A.R.** ; Thompson, R.P. ; Sumida, H. and Schulte, B.A. (1989)
lectin histochemistry of the embryonic heart : expression of terminal and penultimate galactose residues in developing rats and chicken. American J. of Anatomy, 184 : 85-94
22. **Fazel, A.R.** ; Sumida, H. ; Schulte, B.A. and Thompson, R.P.(1989)

Lectin histochemistry of the embryonic heart: fucose- specific lectin binding sites in developing rats and chicken. American J. of Anatomy, 184, 76-84

23. **Fazel, A.R.**; Schulte, B.A. And Spicer, S.S. (1990) Glycoconjugate unique to migrating primordial germ cells differs with genera. Anatomical Record, 228 : 177-184

(Notice: The Anatomical Record selected one of picture of this article as its cover page picture of October 7, 1990 issue)

24. Honda, T; Schulte, B.A. ; **Fazel A.R.** and Spicer, S.S. (1990) Lectin Binding beneath epithelium and in smooth muscle cell in the developing bronchial tree. Cell Differentiation and Development, 31: 31-42

25. Alles, A. J.; **Fazel, A.R.** ; Spicer, S.S. and Dom, Richard M. (1990) Distribution of glycoconjugates in the optic vesicle and optic cap. Anatomy and Embryology, 182 : 611-616

26. Swindle, M.M. ; Thompson, R.P. : Carobello, B.A. ; Smith, A.C. ; Hepburn, B.J. ; Bodison, D. R. ; Corine, W. ; **Fazel, A. R.** ; Biederman, W.W. and Spinale, F.G. (1990) Heritable ventricular septal defect in yucatan miniature swine. Laboratory Animal Care, 40 (2) : 155-61

27. Thompson, R.P. ; Lindroth, J.R. ; Alles, A.J. and **Fazel, A.R.** (1990) Cell differentiation birthdates in the embryonic rat heart. Annal N.Y.Academy of Science, 588 : 446-448

28. **Fazel, A.R.** (1996) Cigarette smoke / Ethanol induced limb defects in mouse embryos. Medical J. of the Islamic Republic of Iran, 9(4)

29. **Fazel, A.R.** (1995) Association of craniofacial and cardiac defects in phenytoin - treated mouse embryo. Iranian Basic Medical Sciences, 20 (3,4) : 146-51

30. Jalalie, M. ; **Fazel, A.R.** (1998) Hypervitaminosis A-induced central nervous system defects. Medical J. Of Islamic Republic of Iran, 12 (3) : 279-83

31. **Fazel, A.R.**; Jalalie, M. (2002) Experimentally – induced exencephaly and spina bifida in mice . Arch Iranian Med., 5(3):19-183

32. Omid, A.; Sharif, N.; **Fazel, A.**; Niazi, A.; Gharavian, M.; (2002), A case of bilateral agenesis of the femur. Iranian J. Basic Med. Sci. 27(1):36-37

33. Jafarpur, M.; **Fazel, A.** (2002) Distribution of sialic acids during trigeminal gangliogenesis. Iranian J. Basic Med. Sci. 5 (3):9-13

34. Farahi Shalchi ,H.; **Fazel,A** .(2002) Common heart and liver with complex cardiac anomalies in thoraco-omphalopagus twins. Iranian J.Med.Sci 5 (4) : 240 - 243
35. Ganji,F.; **Fazel A**. (2003) Lectin binding pattern in the microenvironment of the mice developing Thymus - . Iranian Biomedical Journal. 7 (1) : 19-22
- 36- Raziee M and **Fazel A**. (2003) From optic placode to the hair cell formation. Iranian J. Otorhinolarygology.
37. Nikravesch , Mohammad Reza ; Jalali, Mehdi and **Fazel , Ali Reza** .(2003) Unique Carbohydrate Appearance of the Floor Plate During Early Neurolation . Iranian Biomedical Journal 7 (3) : 133-137 .
38. Jafarpur M., Mofidpur H., **Fazel A**. (2003) Sympathetic gangliogenesis and temporo-spatial glycoconjugates's terminal sugars distribution. Iranian Biomedical Journal 7 (4):183-186
39. Gamji F., **Fazel A**., (2003). Lectin binding pattern in the microenvironment of the mouse developin T-cell. Iranian Journal of bio Med.7(1): 19-22
- 40- Hassanzadeh M., Nikravesch M., Jalali M., Fazel A. (2003). Distribution of some glycoconjugates in notochord and axial vessels during early morphogenesis in Balb/C mouse embryos. Journal of Gorgan University Med Science 5(1): 1-9
41. Hassanzadeh M., Nikravesch M., Jalali M., Fazel A.(2004). The role of glycoconjugates in development of floor plate during early morphogenesis in mouse embryo. Journal of Kerman University of Med. Science 11(2):85-93
42. Mahmudian A>, Zamansoltani F., Alavi H, Fazel A. (2004). Assessment of scialic acid distribution in mouse epididymis. Journal of Kerman Med. Science University 11(3): 141-149
43. Hassanzadeh Taheri M., Nikravesch M., jalali M, Fazel A. Ebrahimzadeh A. (2005) . Distribution of specific glycoconjugates in early mouse embryonic notochord and paraxial mesenchyme. Iranian Biomedical J.9 (1) : 21-26
44. Hassanzadeh Taheri M., Nikravesch M, jalali M, **Fazel A.R**. Ebrahimzadeh A. (2005) Distribution of specific glycoconjugates in early mouse embryonic notochord and paraxial mesenchyme. Iranian Biomedical J.9 (1): 21-26
45. Farkhondeh Kalat, A.; Bahaara,J.; Khayatzadeh,J.; **Fazel A**..(2008) The developmental changes in certain glycoconjugates during the development of Meckel's cartilage in mouse.

46. **Fazel, A.R.** (2008) Critical periods of embryonic development and effects of teratogens
J.Birjand Med Sci. 14(4): 5-14
47. Habibi- Rezaei M., Hosseinipناه S., Fazel A. (2008). Lectin binding characteristics of murine zona pellucida during folliculogenesis : importance of N-acetyl sugar derivate. Journal Science Univer. Tehran 33: 25-31
48. Akbarnejad Z., Haghir H., Moghimi A., Sazegarnia A., Fazel A. (2010). Synchronous effects of light and noise prenatal stress on birth weight among rat neonates. Infertility 13 (3): 31-36
49. Amir Hossein Jafarian^a, Abbas Ali Omidia, **Alireza Fazel** ,
50. Hamed Sadeghiana, Bahareh Joushan . (2011) Pentalogy of Cantrell: a case report. JRMS 16 (1): 105-9
51. Rajabzadeh A, Ebrahimzadeh Bideskan A, Haghir H, **Fazel A.** (2011) Morphometrical study of polysialyated neural cell adhesion molecule positive cells in rat pups hippocampus following induction of seizure during pregnancy. Iran Biomed. 15(4): 157-63
52. Rajabzadeh A., Ebrahimzadeh Bideskan A., **Fazel A.**, Sankian M, Rafatpanah H., Haghir H. (2011) The effect of OTZ.induced epileptic seizure on hippocampal expression of PSA-NCAMP in offspring born to kindled rats.
J Biomed Sci;19: 19-56.
53. Jalali M., Alamdari D., Nikraves M., Hosseini S., **Fazel A.** (2011). Effects of incubation time on the in vitro labeling of umbilical cord blood hematopoietic stem cells with bromo deoxyuridine (BrdU) Clinical Biochemistry 44(13) : 1-
54. . Ebrahimzadeh A., Taheri M, Nikraves M, **Fazel A.** (2011) Lectin histochemical study of vasculogenesis during rat pituitary morphogenesis Iranian J. of Basic Medical Sciences Volume 14, Issue 1, Pages 35-41

55. Nikmoradi F., Sankian M., **Fazel A.** (2011) Laminin B1 expression during gonadogenesis in rat using immunohistochemical technique. *Clinical biochemistry* 44(13) 1-
56. Hassanzdeh Taheri M., Hasanpour fard M., Kazemi T., **Fazel A.** (2012) Distribution of some glycoconjugates in the notochord and developing gut during early morphogenesis on Balb/c mouse embryos. *Zahedan J. Res.Med Sci.* 14(3): 7-12
57. Atabaki Pastar F., Khooei A., **Fazel A.**, Mahmoudi M., Nikraves M., Khaje Delui M. (2012) Diagnostic value of lectins in differentiation of molar placentas. *Iranian J. of Basic Medical Sciences* 15(5): 1005-1014
58. Nikraves m., Jalali M., Fazel A., Ebrahimzadeh A., Sankian M. (2012). Nicotine decreased expression of fibronectin in lung parenchyma newborn . *African Journal of Pharmacy and Pharmacology* 6(20): 1451-1456
59. Kohbabanai M. Nikraves M ., Jalali M., **Fazel A.**, Ebrahimzadeh A. (2012). Effects of maternal nicotine exposure on expression laminin alpha 5 in lung tissue of newborn. *Pakistan Journal of Biological Sciences (PJBS)* 15 (24): 1168-1175
60. Aldaghi M., Jalali M., Nikraves M., **Fazel A.**, Sankian M. (2012) Effect of α -lipoid acid on expression of collagen IV of the sciatic nerve of diabetic rats. *Res. Opin. Anim. Vet. Sci* ;2(12): 576-582
61. Shariati M., Nikraves M., Jalali M., **Fazel A.**, Sankian M. (2012) Maternal nicotine exposure altered expression of laminin in α 5 in lung tissue newborn mice. *J Cell and Animal Biol.*6(15): 226-232
62. Seghatoleslam M., Jalali M., Nikraves M., Hosseini M., Hamidi Alamdari D., **Fazel A.** (2012) Therapeutic benefit of intravenous of human umbilical cord blood mononuclear cells following intracereblar hemorrhage in rat. *Iran J. Basic Med Sci.*15(3):860-72
63. Seghatoleslam M, Jalali M, Nikraves MR, Hamidi Alamdari D, Hosseini M, **Fazel A.** ((2013) Intravenous administration of human umbilical cord blood-mononuclear cells dose-dependently relieve neurologic deficits in rat intracerebral hemorrhage model. *Ann Anat.*195(1):39-49.
64. Atabaki Pastar F., Khooei A., **Fazel A.**, Mahmoudi M., Tavassoli F. (2013) Detection of sugar chain expression in hydatiform mole using lectin histochemistry. *Iranian Red Crescent Medical Journal* 15(5): 376-380
65. Khooei A., Atabaki Pastar F., **Fazel A.**, Mahmoudi M., Nikraves M.,

- Khaje delui M., Pourheydar B. (2013) Ki-67 expression in hydatiform moles and hydropic abortions. Iranian Red Crescent Medical Journal 15(7):590- 594
66. Mohammadi S., Haghir H., **Fazel A.**, Vafaei A. (2013) Analysis of amygdale nucleus in the rat brain: A review study. Electronic Physician 5(2): 639-642
67. Aldaghi M., Jalali M., Nikravesch M., **Fazel A.**, Sankian M. Comparison of insulin and alpha lipid acid treatment on laminin expression in sciatic nerve of diabetic rats. (2013) Academic Journals 7(8): 102-108
- 68 . Sadegh A., Ebrahimzadeh Bideskan A., Alipour F., **Fazel A.**, Haghir H. (2013) The effect of ascorbic acid and garlic administration on lead-induced neural damage in rat offspring's hippocampus. (2013) . Iran J Basic Med Sci. 16: 157-64
69. Mohammadi S., Jalali M., Nikravesch M., Gholamin M., **Fazel A.**, Ebrahimzadeh A., Sankian M. (2013) . Effects of L-carnitin treatment of CatSper proteins in the aging mouse model. Eru.J. Exper.Biol.3(3): 731-735
70. Mohammadipour A., Hosseini M., **Fazel A.**, Haghir H., Rafatpanah H., Pourghanji M., Ebrahimzadeh Bideskam A. (2013). The effect of exposure to titanium dioxide nanoparticles during lactation perid on learning and memory of rat offspring. Toxicol.Ind health sep. 30.....
71. Mohammadi S., Jalali M., Nikravesch M., **Fazel A.**, Ebrahimzadeh A., Gholamin M., Sankian M. (2013). Effects of vitamin E treatment on Ca-tSper genes expression and sperm quality in the testis of the aging mouse. Iran J Reprod.Me. 11(12): 989-998.
72. Mohammadi S., Jalali M., Nikravesch M., **Fazel A.**, Ebrahimzadeh A. (2013). Does alpha-tochpheral and L-carnitine increase Cat-Sper expression in aging mouse testis. Iranian Journal of reproductive Medicine. 14 (abstract)
73. Khordad E., **Fazel A.**, Ebrahimzadeh A. (2013). The effects of ascorbic acid and garlic administration on lead induced apaoptosis in rat offspring's retina. Iranian Biomedical Journal 17 (4) 206-
74. Mohammadi S., Jalali M., Nikravesch M., Sankian M., Gholamian M., **Fazel A.**, Ebrahimzadeh A. (2013). Combination of vitamin A with L-carnitine increase Cat-Sper genes expression in the aging mouse testes. European Journal of experimental biology 3(4): 77-83
75. Ebrahimi V., Vojoudi E., **Fazel A.** (2014). Study of glycoconjugates terminal sugars during retinal ganglionic cell differentiation in rat. The Horison of Medical Sciences. 20(2) : 5-6
76. Ebrahimi V., Vojoudi E., **Fazel A.**, Ebrahimzadeh E. (2014). Histochemical study of retinal receptors development during pre-and postnatal period and their

association with pigment epithelium. Iranian Journal of Basic Sciences 17(7): 483-489

77. Mohammadipour A., **Fazel A.**, Haghiri H., Motejaded F., Rafatpanh H. (2014). Maternal exposure to titanium dioxide nanoparticles during pregnancy impaired memory and decreased hippocampal cell proliferation in rat offspring. Environmental toxicology and pharmacology 37(2): 617-625.

78. Mohammadzadeh E., Nikraves M., Jalali M., **Fazel A.**, Ebrahimi E. (2014). Immunohistochemical study of type III collagen expression during pre and post natal rat skin morphogenesis. Iranian Journal of Basic Sciences 17(3): 196-

79. Alipour F., Ebrahimzadeh A., **Fazel A.**, Sadeghi A., Hami J., Kheradmandi. (2014). Protective effects of ascorbic acid and garlic extract against neurogenesis inhibition caused by developmental lead exposure in the dentate gyrus of rat. Comparative Clinical Pathology, 1-7

80. Salimnejad R., Jalali M., Nikraves M., **Fazel A.** (2014). Protective effects of garlic aqueous extract on germ cells apoptosis in the male diabetics rats. International J. Curr. life Science. 4(4): 1451-1455

81. Vojoudi E., Ebrahimi V., Ebrahimzadeh A., Fazel A. (2015). Glycoconjugates distribution during developing mouse spinal cord organizer. Iranian Biomedical Journal , 19(1): 63-68