PART I: General Information

Name: Mohammed S. Razzaque

Current Employment:
Department of Developmental Biology,
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Boston, MA

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Education:

1994 PhD (in Molecular Pathology) Nagasaki University School of Medicine, Nagasaki, Japan

Postdoctoral Training:

1999-2000
Post-Doctoral Research Fellow *Division of Nephrology*,
Pennsylvania State University College of Medicine,
Hershey, PA

Academic Appointments:

1994-1999 *Instructor* Department of Pathology,
Nagasaki University School of Medicine,
Nagasaki 852-8523, Japan

2000-2003 *Instructor* Department of Oral Medicine, Infection and Immunity,
Harvard School of Dental of Medicine,
Boston, MA 02115.

2004-2006 *Instructor* Department of Developmental Biology,
Harvard School of Dental of Medicine,
Boston, MA 02115.

Research Grant Support:

(Completed)
1997-1998 (Grant no. 09670192)
Ministry of Education, Science and Culture, JAPAN.
Molecular mechanisms of renal scarring in human glomerulonephritis.
Role: *Principal Investigator*.

(Current or applied)
2006
RO-1 grant, *revised submission*, July'06 to NIH. (NIAMS)
Fgf-23: Roles and regulation during skeletogenesis.
Role: *Co- Investigator.* (Funding starts from April, 2007)

2006
RO-1 grant, *revised submission*, November 1st '06 to NIH. (NIDDK)
In vivo interactions of Fgf-23, klotho and vitamin D.
Role: *Principal Investigator.* (Waiting for council meeting decision on funding)

Patent/Invention:
Inventor patent no Harvard Ref. 2561; Foley Ref. HMV-111.60 (pending); patent submitted through Harvard University, Boston, MA

Part II: Current Research and Teaching Experiences

A. Report of Current Research Activities:

Bench research

1) Effect of renal electrolyte regulatory molecules in skeletogenesis.
2) Molecular mechanisms of pulmonary and renal scarring.
3) Role of PTH, vitamin-D, klotho and FGF-23 in ageing.
4) Effects of chronic suppression of GH/IGF-1 activity on bone and kidney.

B. Report of Teaching Experiences:

Tutor/Instructor (*Nagasaki University School of Medicine*) Renal Pathology (1994-1999)
Research Instructor (*Harvard School of Dental Medicine*) Ocular Pathology (2000-2004)
Tutor/Instructor (*Harvard School of Dental Medicine*) Oral Immunology (2004-present)
Pre-doctoral research advisor (*Harvard School of Dental Medicine*) (2005-present)
Pre- and post-doctoral thesis evaluator (*Harvard School of Dental Medicine*) (2006-present)

PART III: Bibliography

Peer-reviewed Original Articles: (*partial list*, *:*corresponding author*)

1. **Razzaque MS**, Koji T, Taguchi T*, Harada T, Nakane PK. In situ localization of type III and type IV collagen-expressing cells in human diabetic nephropathy. *Journal of Pathology* 1994; 174:131-138.

2. **Razzaque MS***, Taguchi T. Collagen-binding heat shock protein (HSP) 47 expression in anti-thymocyte serum (ATS)-induced glomerulonephritis. *Journal of Pathology* 1997; 183:24-29.

3. **Razzaque MS***, Nazneen A, Taguchi T. Immunolocalization of collagen and collagen-binding heat shock protein 47 in fibrotic lung diseases. *Modern Pathology* 1998; 11:1183-1188.

4. Rashid MA, Akita S*, **Razzaque MS**, Yoshimoto H, Ishihara H, Fuji T, Tanaka K, Taguchi T. Coadministration of basic fibroblast growth factor and sucrose octasulfate (sucralfate) facilitate the rat dorsal flap survival and viability. *Plastic and Reconstructive Surgery* 1999; 103:941-948.

5. Naito T, **Razzaque MS**, Nazneen A, Liu D, Nihei H, Koji T, Taguchi T*. Renal expression of ets-1 protooncogene during progression of rat crescentic glomerulonephritis. *Journal of American Society of Nephrology* 2000; 11:2243-2255.

6. Kumari S, Bhol KC, Simmons RK, **Razzaque MS**, Letko E, Foster CS, Ahmed AR*. Identification of ocular cicatricial pemphigoid antibody binding epitope in human b4 integrin. *Investigative Ophthalmology and Visual Science* 2001; 42:379-385.

7. Zhang M-Y, Huang N-N, Clawson G, Osmani SA, Pan W, Xin P, **Razzaque MS**, Miller BA*. The human homolog of the fungal nuclear migration gene NUDC is involved in cell proliferation and mitotic spindle formation. *Experimental Cell Research* 2002; 273:73-84.

8. **Razzaque MS**, Foster CS, Ahmed AR*. Role of collagen-binding heat shock protein 47 and transforming growth factor beta 1 in conjunctival scarring in ocular cicatritial pemphigoid. *Investigative Ophthalmology and Visual Science* 2003; 44:1616-1621.

9. **Razzaque MS**, Soegiarto DW, Long F, Lanske B*. Conditional deletion of Indian hedgehog from collagen type 2 alpha1-expressing cells results in abnormal endochondral bone formation. *Journal of Pathology* 2005; 453-461.

10. Sitara D, **Razzaque MS**, St-Arnaud R, Taguchi T, Erben RG, Lanske B*. Ablation of vitamin D activation pathway rescues anomalies in *Fgf-23* null animals. *American Journal of Pathology* 2006; 169:2161-2170.

11. **Razzaque MS**, Sitara D, Taguchi T, St-Arnaud R, Lanske B*. Premature ageing-like phenotype in fibroblast growth factor-23 null mice is a vitamin-D mediated process. *FASEB J* 2006 20: 720-722.

12. Zha Y, Le VT, Higami Y, Shimokawa I, Taguchi T, **Razzaque MS***. Life-long suppression of growth hormone (GH)-insulin-like growth factor-1 (IGF-1) axis in genetically altered rats could prevent age-associated renal damages. *Endocrinology* 2006; 147: 5690-5698.

13. Maeda Y, Nakamura E, Nguyen M-T, Suva LJ, Swain FL, **Razzaque MS**, Mackem S, Lanske B*. Indian Hedgehog produced by postnatal chondrocytes is essential for maintaining a growth plate and trabecular bone. *Proceedings of the National Academy of Sciences USA* 2007; (*in press*).

14. Berndt TJ, Craig TA, McCormick DJ, Lanske B, Sitara D, **Razzaque MS**, Pragnell M, Bowe AE, O'brien SP, Schiavi SC, Kumar R*. Biological activity of FGF-23 fragments. *Pflugers Arch*. 2007; doi: 10.1007/s00424-007-0231-5

15. Goetz R, Beenken A, Ibrahimi OA, Kalinina J, Olsen SK, Eliseenkova AV, Xu C, Neubert T, Zhang F, Linhardt RJ, Yu X, White KE, Inagaki T, Kliewer SA, Yamamoto M, Kurosu H, Ogawa Y, Kuro-O M, Lanske B, **Razzaque MS**, Mohammadi M*. Molecular insights into the klotho-dependent, endocrine mode of action of FGF19 subfamily members. *Molecular Cellular Biology* 2007; doi:10.1128/MCB.02249-06.

Review articles, and Editorial Comments:

1. **Razzaque MS***, Taguchi T. Pulmonary fibrosis: cellular and molecular events. *Pathology International* 2003; 53:133-145.

2. **Razzaque MS***, St-Arnaud R, Taguchi T, Lanske B. Fgf-23, vitamin D and calcification: The unholy triad. *Nephrology Dialysis and Transplantation* 2005; 20:2032-2035.

3. **Razzaque MS***, Lanske B. Hypervitaminosis D and premature aging: lessons learned from *Fgf-23* and *klotho* mutant mice. *Trends in Molecular Medicine* 2006; 12:298-305.

4. Lanske B*, **Razzaque MS***. Mineral ion metabolism and aging: the Fgf-23 enigma. *Current Opinion in Nephrology and Hypertension* 2007; (*invited review*).

5. **Razzaque MS***, Lanske B. The emerging role of the FGF23-klotho axis in renal regulation of phosphate homeostasis. *Journal of Endocrinology 2007;* (*invited review*).

6. Lanske B, **Razzaque MS***. Premature aging in klotho mutant mice: cause or consequence? *Ageing Research Reviews 2007;* doi:10.1016/j.arr.2007.02.002.

7. **Razzaque MS***. Cisplatin nephropathy: Is cytotoxicity avertable? *Nephrology Dialysis and Transplantation* 2007; (*invited review*).

8. Taguchi T, **Razzaque MS***. The collagen-specific molecular chaperone HSP47: is there a role in fibrosis? *Trends in Molecular Medicine* 2007; doi:10.1016/j.molmed.2006.12.001