Curriculum Vitae

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1. Education

- Sep. 1993 - Aug. 1998, Ph.D.

Molecular Biology and Biochemistry Program, University of Connecticut Health Center
Thesis Title: "Translational enhancer function of an RNA trafficking sequence."
Major Advisor: Dr. John H. Carson

- Mar. 1990 - Feb. 1992, M.S.

Department of Biochemistry, Yonsei University, Korea
Thesis Title: "Purification and Characterization of Malonyl-CoA Synthetase from *Rhizobium trifolii.*"
Major Advisor: Dr. Yu-Sam Kim

- Mar. 1986 - Feb. 1990, B.S.

Department of Biochemistry, College of Science, Yonsei University, Korea

2. Professional experience

- Sep 2001 - present, Research Assistant Professor, Department of Cell & Developmental Biology, Oregon Health & Science University
- July 1998 - Aug 2001, Postdoctoral fellow, Department of Cell Biology, Harvard Medical School
- Mar. 1992 - July 1993, Research Assistant, Department of Biochemistry, Yonsei University, Korea

3. Teaching experience

lecturer, 2004 winter, OHSU graduate course "MECHANISMS OF DEVELOPMENT"

4. Field of specialization

RNA transport and localization in oligodendrocytes, *Xenopus* oocytes, and *Drosophila* egg chamber.

5. Professional societies

- Korean Society for Biochemistry membership (1990-1992)
- American Association for the Advancement of Science membership (1994-present)
- American Society for Cell Biology (ASCB) membership (1996-present)

6. Honors and distinctions

- Official Commendation from Yonsei University President (1987)
- Merit-based Scholarship from Yonsei University (1989)
- Teaching Assistantship at Yonsei University Graduate School (1990)
- University of Connecticut Health Center Graduate Program Committee Fellowship (1994-1997)
- ASCB/Worthington Predoctoral Travel Award (1997)
- ASCB Postdoctoral Travel Award (2005)

7. Inventions

- RNA Translation Enhancer Sequence. Carson, J.H., **Kwon, S.**, Ainger, K and Avossa, D. (2001) U.S. Patent No. 6,225,082.
- Malonyl-CoA Synthetase from *Rhizobium trifolii*. Kim, Y. S., Chae, H. Z., Kang, S. W., and **Kwon, S** Korean Patent No. 092331.

8. Publications

- **Kwon, S.**, Wolfson, S. N., and Schnapp, B. J. Sequence elements, E2 (UUCAC)s, need separable non-sequence elements to direct RNA localization in *Xenopus* oocytes. *Manuscript in preparation*
- Munro, T. P, **Kwon, S.**, Schnapp, B. J., and St. Johnston, D. The *Drosophila* Orthologue of ZBP/Vera/Vg1RBP is essential for cell migration during oogenesis. *Manuscript in preparation*
- Munro, T. M*, **Kwon, S.***, Schnapp, B. J., and St. Johnston, D. ***equal first authorship**. A repeated IMP-binding motif controls *oskar* mRNA translation and anchoring independently to *Drosophila* IMP. *Submitted*
- **Kwon, S.**, Abramson, T., Munro, T., John, C., Köhrmann, M., and Schnapp, B. J. (2002) UUCAC- and Vera-dependent localization of VegT RNA in *Xenopus* oocytes. *Curr. Biol.* 12:558-564.
- **Kwon, S.** and Schnapp, B. J. (2001) RNA localization: SHEdding light on the RNA-motor linkage. *Curr. Biol.* 11:R166-R168.
- Barbarese, E., Brumwell, C., **Kwon, S.**, Cui, H., and Carson, J. H. (1999) RNA on the road to myelin. *J. Neurocytol.* 28:263-270.
- **Kwon, S.**, Barbarese, E., and Carson, J. H. (1999). The cis-acting RNA trafficking signal from myelin basic protein mRNA and its cognate trans-acting ligand hnRNP A2 enhance cap-dependent translation. *J. Cell Biol.* 147, 247-56. Accompanied by "In Brief " of the same JCB issue.
- Carson, J. H., **Kwon S.**, and Barbarese E. (1998) RNA trafficking in myelinating cells. *Curr. Opin. Neurobiol.* 8:607-12.
- **Kwon, S.** and Carson, J. H. (1998) Fluorescence quenching and dequenching analysis of RNA interactions in vitro and in vivo. *Anal. Biochem.* 264:133-40.
- Kim, Y. S., **Kwon, S.**, Kang, S. W. (1993) Malonyl-CoA Synthetase from *Rhizobium trifolii*: Purification, Properties, and the Immunological Comparison with Those from *Bradyrhizobium japonicum* and *Pseudomonas fluoresence*. *Korean Biochem. J.* 26:176-183.

9. Invited talks

- Annual meeting of Korean Society for Biochemistry and Molecular Biology (2002).
- Department of Biochemistry, Yonsei University (2002).
- Podium Speaker of the 8th Annual New England BioScience Society (2000).
- Department of Biochemistry, Yonsei University (1997).
- Hormone Research Center & Department of Biology, Chunnam National University (1997).
- Department of Life Science, Gwangju Institute of Science and Technology (1997).

10. Poster presentations

- Munro, T. P, **Kwon, S.**, Schnapp, B. J., and St. Johnston, D. (2005) The *Drosophila* Orthologue of ZBP/Vera/Vg1RBP is essential for cell migration during oogenesis. 46th Annual Drosophila Research Conference.
- Munro, T. P*, **Kwon, S.***, St. Johnston, D., and Schnapp, B. J. (2003) ***equal first authorship**. The *Drosophila* homologue of Vera/Vg1RBP/ZBP co-localises with *oskar* mRNA during oogenesis and specifically selects a repeated pentanucleotide element present in the *oskar* 3'UTR. FASEB Summer Research Conference on intracellular RNA sorting, transport and localization.

- Munro, T. P*, **Kwon, S.***, St. Johnston, D., and Schnapp' B. J. (2003) ***equal first authorship**. The *Drosophila* homologue of Vera/Vg1RBP/ZBP co-localises with *oskar* mRNA during oogenesis and specifically selects a repeated pentanucleotide element present in the *oskar* 3'UTR. *Mol. Biol. Cell* 14:S; 97a
- **Kwons, S.** and Schnapp, B. J. (2002) Sequence elements, E2 (UUCAC)s, need separable non-sequence elements to direct RNA localization in *Xenopus* oocytes. *Mol. Biol. Cell* 13:S; 522a
- **Kwon, S.**, Abramson, T., Munro, T., John, C., Köhrmann, M., and Schnapp, B. J. (2001) Repeated UUCACs are general cis-acting localization motifs in maternal RNAs that establish the germ layers in *Xenopus*. *Mol. Biol. Cell* 12:S; 362a
- **Kwon, S.**, Abramson, T., John, C., Köhrmann, M., and Schnapp, B. J. (2000) Repeated E2s (UUCAC) in *Xenopus* Vg1 and VegT RNAs are cis-acting localization signals that compete in vivo for the same factor. *Mol. Biol. Cell* 11:S; 806a
- **Kwon, S.**, Abramson, T., and Schnapp, B. J. (2000) Localization of Two Different mRNAs is Directed by the Same Cis-acting Signal and Trans-acting Factor. FASEB Summer Research Conference on RNA sorting, transport and localization in differentiation and development.
- **Kwon, S.** and Carson, J. H. (1998) Translational enhancer function of an RNA trafficking sequence. FASEB Summer Research Conference on Intracellular RNA sorting, transport and localization.
- **Kwon, S.** and Carson, J. (1997) Translational Control and RNA Transport are Mediated by the same *cis/trans*Determinants. *Mol. Biol. Cell* 8:S; 434a
- Carson J, **Kwon S**, Barbarese E, Kidd G, Hoeck K, Smith R (1997) Common cis/trans determinants for nuclear export, cytoplasmic transport and translational regulation of MBP mRNA in oligodendrocytes. *J. Neurochem.* 69: S81-S81 Suppl. S
- **Kwon, S.** and Carson, J. (1997) Translational Control and RNA Transport are Mediated by the same *cis/trans* Determinants. *The FASEB Journal* 11(9); A1232
- **Kwon, S.** and Carson, J. (1996) Translational Regulation by mRNA Transport Sequence of Myelin Basic Protein. *Mol. Biol. Cell* 7:S; 107a
- **Kwon, S.** and Carson, J. (1996) Translational Regulation by mRNA Transport Sequence of Myelin Basic Protein. Translational Control meeting at Cold Spring Harbor Laboratory.

11. References

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Dr. John H. Carson Professor Department of Molecular, Microbial and Structural Biology University of Connecticut Health Center 263 Farmington Avenue Farmington, CT 06030 Tel: 860-679-2130 Fax: 860-679-3408 E-mail: jcarson@nso2.uchc.edu	Dr. Elisa Barbarese Professor Department of Neuroscience University of Connecticut Health Center 263 Farmington Avenue Farmington, CT 06030 Tel: 860-679-3495 Fax: 860-679-8766 E-mail: barbarese@nso2.uchc.edu