

Beverly S. Chilton

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ACADEMIC POSITIONS:

Cell Biology and Biochemistry, Texas Tech University HSC, Lubbock, TX	Professor	1994-
	Associate Professor	1987-94
	Assistant Professor	1984-87
Anatomy, Medical University of South Carolina, Charleston, SC	Assistant Professor	1981-84
Obstetrics & Gynecology, University of Pennsylvania School of Medicine, Philadelphia, PA	Postdoctoral Fellow	1977-81
Genetics, Albert Einstein College of Medicine, Bronx, NY	Postdoctoral Associate	1976-77

EDUCATION:

University of Tennessee, Knoxville	Ph.D. Zoology	1973-76
Arizona State University, Tempe	M.S. Zoology	1970-73
Arizona State University, Tempe	B.S. Zoology	1965-70

AWARDS:

NIH, Research Career Development Award, 1 KO4 HD00704	1986-91
Faculty Development Leave funded by NSF US-New Zealand Cooperative Program	1989-90
President's Excellence in Teaching Award for the School of Medicine-Basic Sciences (TTUHSC)	1987
President's Academic Achievement Award for the Health Sciences Center (TTUHSC)	1995
YWCA Women of Excellence Science Award	1999
Dean's Research Award	2003
Chancellor's Council Distinguished Research Award	2003
University Distinguished Professor	2005
Clinically Oriented Anatomy Teaching Award for 2010	2011

TEACHING EXPERIENCE:

Medical Gross Anatomy & Histology	1981-
Allied Health Gross Anatomy, Histology & Embryology	1984-00

ADMINISTRATIVE EXPERIENCE:

Director, TTUHSC Laura W. Bush Institute for Women's Health (LWBIWH)	2007-09
Course Director, Allied Health Gross Anatomy	1985-00
Faculty Advisor, Electron Microscopy & Flow Cytometry Services Center	1985-96
Associate Chairman, Department of Cell Biology & Anatomy	1993-94

PROFESSIONAL ACTIVITIES:

Editorial Boards	<u>Endocrinology</u>	01/01/94 - 12/31/97
	<u>Biology of Reproduction</u>	07/01/95 - 06/30/99, 07/01/02 - 06/30/04
	<u>Molecular & Cellular Endocrinology</u>	01/01/95 - 09/13/06
North American At-the-Cutting Edge (ACE) Review Editor for <u>Molecular & Cellular Endocrinology</u>		09/13/06 - present

Grant Review History - Ad Hoc Reviewer NIH Study Sections: NIGMS, MBRS Site Visit or Review Committee, (1992-1994); NICHD, Biochemical Endocrinology (1993), Reproductive Biology (1994-01), Reproductive Endocrinology (1999-00); Site Visit, Heritable Disorders Branch NICHD (1997 & 2001); NCI, Site Visit, The

Beverly S. Chilton

Curriculum Vitae - Page 2

Wistar Institute (1999); Special Emphasis Panels (1999-2014); NCI, Site Visit, Laboratory of Metabolism (2006); NIH Reviewers Reserve (1995-99)

Study Section, Regular member of REB and CMIR 2001-05

Society for the Study of Reproduction	
Publications Committee	1994-96
Future Meeting Sites Committee	
Member	1996-00
Chairman	1997-99
By-Laws Committee	1996-97
Awards Committee	2000-01
Program Committee	2001-03
Nominating Committee	2003-04

International Symposium on the Uteroglobin/cc10kDa Family of Proteins, jointly sponsored by the New York Academy of Sciences and NIH, April 14-16, 2000

Organizers: AB Mukherjee, BS Chilton, F DeMayo & G Singh,
Secretary, Nomenclature Committee: BS Chilton – please see resultant publication
Editors: AB Mukherjee and BS Chilton, Ann. N.Y. Acad. Sci., Volume 923

PROFESSIONAL SOCIETIES:

American Association for the Advancement of Science (1974), American Society for Cell Biology (1980), Microscopy Society of America (1973), Society for the Study of Reproduction (1980), The Endocrine Society (1983), The American Society for Biochemistry and Molecular Biology (2006)

PAPERS:

Chilton BS, Hadley NF. Further investigations on the respiratory metabolism of adult beet armyworms, *Spodoptera exigua* (Hubner) (Lepidoptera:Noctuidae). *J Ariz Acad Sci* .1972;7:139-142.

Chilton BS. Effects of gamma radiation on the ultrastructure and acid phosphatase activity of the mid-gut of the adult beet armyworm, *Spodoptera exigua*. MS. Thesis, 1973, Arizona State University, Tempe.

Chilton BS. Effects of gamma radiation on the ultrastructure and acid phosphatase activity of the mid-gut of the adult beet armyworm, *Spodoptera exigua*. *Ann Ent Soc Amer*. 1974;67:433-441.

Chilton BS. Rabbit endometrial RNA- and DNA-dependent DNA polymerase activity during the first trimester of pregnancy. PhD Dissertation, 1976, University of Tennessee, Knoxville.

Chilton BS, Daniel Jr JC, Booher CB. Induction of blastokinin synthesis by synthetic progestins. *Fertil Steril*. 1977;28:269-272.

Chilton BS, Daniel Jr JC. Rabbit endometrial RNA- and DNA-dependent DNA polymerase activity. *Biol Reprod*. 1978;18:371-378.

Chilton BS, Nicosia SV. Separation of rabbit endocervical cells by unit gravity sedimentation. *Tissue Culture Association Manual* 1979;5:1205-1209.

Chilton BS, Nicosia SV, Sowinski JM, Wolf DP. Isolation and characterization of rabbit endocervical cells. *J Cell Biol*. 1980;86:172-180.

Chilton BS, Nicosia SV, Laufer MR. The effects of estradiol-17 β on endocervical cytodifferentiation and glycoprotein biosynthesis in the ovariectomized rabbit. *Biol Reprod*. 1980;23:677-686.

Chilton BS, Kennedy JR, Nicosia SV. Isolation of basal and mucous cell populations from rabbit trachea. *Am Rev Respir Dis*. 1981;124:723-727.

- Chilton BS**, Nicosia SV, Lyttle CR. Cytosol and nuclear estrogen and progesterone receptors in the rabbit endocervix. *J Steroid Biochem.* 1982;17:363-369.
- Chilton BS**, Key TL. Temporal effects of estradiol on progesterone receptor and glycoprotein synthesis in the epithelial-stromal complex of the rabbit endocervix. *Biol Reprod.* 1984;30:231-238.
- Nicosia SV, Sowinski JM, **Chilton BS**, Streibel EJ. Ultrastructural immunocytochemical localization of lysozyme in the mucociliary epithelium of the rabbit endocervix in different hormonal states. *Anat Rec.* 1984;209:469-480.
- Chilton BS**, Nicosia SV, Sowinski JM. Enrichment of lysozyme-containing cells from the rabbit endocervix by unit gravity sedimentation. *Anat Rec.* 1984;209:481-489.
- Chilton BS**. Estrogen receptor in rabbit endocervical cells isolated by velocity sedimentation. *Biol Reprod.* 1984;31:213-220.
- Daniel Jr JC, Jetton AE, **Chilton BS**. Prolactin as a factor in the uterine response to progesterone in rabbits. *J Reprod Fert.* 1984;72:443-452.
- Chilton BS**, Gettys KL, Newman MG, McAllister CJ, Cowart KT. Differential response of rabbit endocervix and uterus to medroxyprogesterone acetate. *Steroids.* 1985;46:915-927.
- Chilton BS**, Sowinski JM, Barnes H, McAllister CJ. Rabbit endocervical epithelium: Morphometric analysis of secretory cell populations. *Anat Rec.* 1986;216:516-520.
- Chilton BS**, Williams ND, Cobb AD, Leavitt WW. Ligand-receptor dissociation: A potential mechanism for the attenuation of estrogen action in the juvenile uterus. *Endocrinology.* 1987;120:750-757.
- Chilton BS**, Daniel Jr JC. Differences in the rabbit uterine response to progesterone as influenced by growth hormone or prolactin. *J Reprod Fert.* 1987;79:581-587.
- Daniel Jr JC, Juneja SC, Taylor SP, Lonergan PB, Sullivan PK, **Chilton BS**. Variability in the response of the rabbit uterus to progesterone as influenced by prolactin. *J Reprod Fert* 1988;84:13-21.
- Chilton BS**, Kaplan HA, Lennarz WJ. Estrogen regulation of the central enzymes involved in O- and N-linked glycoprotein assembly in the developing and the adult rabbit endocervix. *Endocrinology.* 1988;123:1237-1244.
- Chilton BS**, Mani SK, Bullock DW. Servomechanism of prolactin and progesterone in regulating uterine gene expression. *Mol Endocrinol.* 1988;2:1169-1175.
- Chilton BS**, Geis LS. Steroid receptors in the developing and the adult rabbit endocervix and in endocervical epithelial cells isolated by flow cytometry. *J Steroid Biochem Molec Biol.* 1990; 37:649-659.
- Randall GW, Daniel, Jr JC, **Chilton BS**. Prolactin enhances uteroglobin gene expression by uteri of immature rabbits. *J Reprod Fert.* 1991;91:249-257.
- Chilton BS**, Deeb EA, Dalley, BK. Progesterone regulates epidermal growth factor receptor on mucous secreting cells in the rabbit endocervix. *Endocrinology.* 1991;129:2094-2100.
- Kleis-SanFrancisco S, Hewetson A, **Chilton BS**. Prolactin augments progesterone-dependent uteroglobin gene expression by modulating promoter-binding proteins. *Mol Endocrinol.* 1993;7:214-223.
- Spicer AP, Duhig T, **Chilton BS**, Gendler SJ. Analysis of mammalian MUC1 genes reveals potential functionally important domains. *Mammalian Genome.* 1995;6:885-888.
- Hayward-Lester A, Hewetson A, Oefner PJ, Doris PA, **Chilton BS**. Cloning, characterization and steroid-dependent posttranscriptional processing of RUSH-1 α & β , two uteroglobin promoter binding proteins. *Mol Endocrinol.* 1996;10:1335-1349.

- Hewetson A, **Chilton BS**. Molecular cloning and hormone-dependent expression of rabbit Muc1 in the cervix and uterus. *Biol Reprod.* 1997;57:468-477.
- Robinson CA, Hayward-Lester A, Hewetson A, Oefner PJ, Doris PA, **Chilton BS**. Quantification of alternatively spliced RUSH mRNA isoforms by QRT-PCR and IP-RP-HPLC analysis: a new approach to measuring regulated splicing efficiency. *Gene.* 1997;198:1-4.
- Hewetson A, **Chilton BS**. Novel elements in the uteroglobin promoter are a functional target for prolactin signaling. *Mol Cell Endocrinol.* 1997;136:1-6.
- Hoffman LH, Olson GE, Carson DC, **Chilton BS**. Progesterone and blastocysts regulate Muc-1 expression in rabbit uterine epithelium. *Endocrinology.* 1998;139:266-271.
- Chilton BS**, Hewetson A. Zinc finger proteins RUSH in where others fear to tread. *Biol Reprod.* 1998;58:285-294.
- Doris PA, Oefner PJ, **Chilton BS**, Hayward-Lester A. Quantitative analysis of gene expression by ion-pair high-performance liquid chromatography. *J. Chromatography A.* 1998;806:47-60.
- Devine JH, Hewetson A, Lee VH, **Chilton BS**. After chromatin is SWItched-on can it be RUSHed? *Mol Cell Endocrinol.* 1999;151:49-56.
- Rendon A, Hewetson A, **Chilton BS**, Lee VH. Expression of RUSH transcription factors in developing and adult rabbit gonads. *Biol Reprod.* 2000;63:156-164.
- Chilton BS**, Hewetson A, Devine J, Hendrix E, Mansharamani M. Uteroglobin gene transcription, What's the RUSH? *Ann NY Acad Sci.* 2000;923:166-180.
- Mansharamani M, **Chilton BS**. Prolactin augments progesterone-dependent expression of a nuclear P-type ATPase that associates with the RING domain of RUSH transcription factors in the endometrium. *Ann NY Acad Sci.* 2000;923:321-324.
- Klug J, Beier HM, Bernard A, **Chilton BS**, Fleming TP, Lehrer RI, Eiele L, Pattabiraman N, Singh G. Uteroglobin/Clara cell 10-kDa family of proteins: nomenclature committee report. *Ann NY Acad Sci.* 2000;923:348-54.
- Mansharamani M, Hewetson A, **Chilton BS**. Cloning and characterization of an atypical Type IV P-type ATPase that binds to the RING motif of RUSH transcription factors. *J Biol Chem.* 2001;276:3641-3649.
- Hendrix E, Hewetson A, Mansharamani M, **Chilton BS**. Oviductin (Muc9) is expressed in Rabbit Endocervix. *Endocrinology.* 2001;142:2151-2154
- Hewetson, A, Hendrix EC, Mansharamani M, Lee, VH, **Chilton BS**. Identification of the RUSH consensus-binding site by cyclic amplification and selection of targets: Demonstration that RUSH mediates the ability of prolactin to augment progesterone-dependent gene expression. *Mol Endocrinol.* 2002;16:2101-2112.
- Hewetson A, **Chilton BS**. An Sp1-NF-Y/Progesterone Receptor DNA Binding-dependent Mechanism Regulates Progesterone-induced Transcription of the Rabbit *RUSH/SMARCA3* Gene. *J Biol Chem.* 2003;278:40177-40185
- Hewetson A, Moore SL, **Chilton BS**. Prolactin signals through RUSH/SMARCA3 in the absence of a physical association with Stat5a. *Biol Reprod.* 2004;71:1907-1912.
- Hewetson, A, **Chilton BS**. Progesterone-dependent DNA-looping between RUSH/SMARCA3 and Egr-1 mediates repression by c-Rel. *Mol Endocrinol.* 2008;22:813-822.
- Hewetson A, Wright-Pastusek AE, Helmer RA, Wesley KA, **Chilton BS**. Conservation of inter-protein binding sites in RUSH and RFBP, an ATP11B isoform. *Mol Cell Endocrinol.* 2008;292:79-86.
- Chilton BS**, Hewetson A. Progesterone regulation of RUSH/SMARCA3/HLTF includes DNA looping. *Biochem Soc Trans.* 2008;36:632-636.

Wang, R-H, Sengupta K, Li C, Kim H-S, Cao L, Xiao C, Kim S, Xu X, Zheng Y, **Chilton BS**, Jia R, Zheng Z-M, Appella E, Wang XW, Ried T, Deng C-X. 2008. Impaired DNA damage response, genomic instability, and tumorigenesis in SIRT1 mutant mice. *Cancer Cell*. 2008;14:312-323.

Helmer RA, Panchoo M, Dertien JS, Bhakta SM, Hewetson A, **Chilton BS**. Prolactin-induced Jak2 phosphorylation of RUSH: a key element in Jak/RUSH signaling. *Mol Cell Endocrinol*. 2010; 325:143-149.

Helmer RA, Dertien JS, **Chilton BS**. Prolactin induced Jak2 phosphorylation of RUSHY195. *Mol Cell Endocrinol*. 2011; 338:79-83.

Helmer RA, Foreman O, Dertien JS, Panchoo M, Bhakta SM, **Chilton BS**. Role of helicase-like transcription factor (Hltf) in the G2/M transition and apoptosis in brain. *PLoS One*. 2013Jun24;8(6):e66799. doi:10.1371/journal.pone.0066799. Print 2013.

Helmer RA, Martinez-Zaguilán R, Dertien JS, Fulford C, Foreman O, Peiris V, **Chilton BS**. Helicase-like transcription factor (Hltf) regulates G2/M transition, Wt1/Gata4/Hif-1 α cardiac transcription networks, and collagen biogenesis. *PLoS One*. 2013 Nov 20;8(11):e80461. doi: 10.1371/journal.pone.0080461. eCollection 2013.

INVITED REVIEWS AND BOOK CHAPTERS:

Daniel Jr JC, **Chilton BS**. Virus-like particles in embryos and female reproductive tract. In: Development in Mammals, 1978;3:131-187, M Johnson ed. Elsevier/North-Holland.

Chilton BS, Nicosia SV, Wolf DP. Separation and characterization of endocervical cells. In: Cellular and Molecular Aspects of Implantation, 1981;464-466, S Glasser and D Bullock eds. Plenum, NY.

Chilton BS, Daniel, Jr JC. Influence of prolactin on DNA synthesis and glandular differentiation in rabbit uterine endometrium. In: Prolactin Basic and Clinical Correlates, 1985;351-359, RM MacLeod, MO Turner, U Scapagnini eds. Fidia Research Series, Vol. 1, Liviana Press, Pavoda, Italy.

Okulicz WC, Hild-Petito S, **Chilton BS**. Expression of steroid hormone receptors in the pregnant uterus. In: Endocrinology of Pregnancy, 1998;177-197, FW Bazer ed. Humana Press, Inc., Totowa, NJ.

Hayward-Lester A, **Chilton BS**, Underhill PA, Oefner PJ, Doris PA. Quantification of specific nucleic acids, regulated RNA processing and genomic polymorphisms using reversed-phase HPLC. In: Gene Quantification, 1998; F Ferre ed. Birkhauser, Boston.

Mansharamani M, **Chilton BS**. The reproductive importance of P-type ATPases. *Mol Cell Endocrinol*. 2001;183:123-126. This At-the-Cutting Edge Review was corrected and republished reprinted in *Mol Cell Endocrinol*. 2002;188:22-25.

Chilton BS. Prolactin action in the uterine endometrium. In: The Endometrium, 2002;269-276. S Glasser, J Aplin, L Giudice, S Tabibzadeh eds. Taylor & Francis Books, Ltd., London, UK.

Chilton BS, Hewetson A. Prolactin and Growth Hormone Signaling. In: Current Topics in Developmental Biology, 2005;68:1-23. G. Schatten ed. Elsevier Inc., San Diego, CA, USA

Mukherjee AB, Zhang Z, **Chilton BS**. Uteroglobin: A Steroid-Inducible Immunomodulatory Protein that Founded the *Secretoglobin* Superfamily. *Endocr Rev*. 2007;28:707-725.

INVITED PRESENTATIONS:

Chilton BS. Rabbit endometrial RNA- and DNA-dependent DNA polymerase activity during pregnancy. Mammalian Genital Tract Secretions (currently known as Reproductive Tract Biology) Gordon Research Conference, NH (July 1977).

Chilton BS. Zinc finger proteins RUSH in where others fear to tread. President's Symposium, 30th Annual Meeting, Society for the Study of Reproduction (August 1997).

Chilton BS. RUSH mediates uteroglobin gene transcription. International Symposium on Uteroglobin/Clara Cell 10kDa Family of Proteins jointly sponsored by the New York Academy of Sciences, NIH NICHD and NIH NHLBI (April 2000).

Chilton BS. RUSH: a nuclear effector of prolactin signals. Prolactin Family Gordon Research Conference, Ventura, CA (February 2004).

Chilton BS. Progesterone regulation of RUSH/SMARCA3 includes DNA looping. Gene Expression and Analysis – Linked Focused Meetings; Biochemical Society; Manchester, England (March 2008).