

College of Medicine at UF, engaged in scientific misconduct in research. Publications and manuscripts containing the falsified data cited support from National Institutes of Health (NIH) grants, or falsified data was included in NIH grant applications, as follows:

- R29 HL52189-01A2, then R01 HL52189-05, "Regulation of renal vascular cells in hypertension".
- R01 HL56921, "AT1 receptor control in chronic hypertension".
- F32 HD08496, "Role of MNA V2.3 in uterine contraction".
- R01/R37 HL49254, "Tonic & pharmacological regulation of vascular cells".
- F32 HL08531, "Hormonal regulation of renal artery ion currents".
- P01 DK41315, "Regulatory mechanism in colonic motility-program project".
- R01 HL69034-01, "Mechanisms of cerebral resistance artery constriction."

Specifically, PHS found that:

I. Dr. Craig H. Gelband falsified data based on contractile tension recording in antisense experiments on the angiotensin enzyme (ACE), purportedly using renal arteriolar smooth muscle tension preparation:

A. by falsely labeling the tension recordings in Figures 5, 6, and 7 in a publication by Wang, H., Reaves, P.Y., Gardon, M.L., Keene, K., Goldberg, D.S., Gelband, C.H., Katovich, M.J. & Raizada, M.K. "Angiotensin I—converting enzyme antisense gene therapy causes permanent antihypertensive effects in the SHR." *Hypertension* 35[part 2]: 2002–208, 2000 (subsequently referred to as the "Hypertension 2000 paper #1"), when he had earlier reported the same contractile records as being from experiments on the angiotensin receptor (not the enzyme), in Figures 6, 7, and 8 of an earlier mini-review by Martens, J.R. & Gelband, C.H. "Ion channels in vascular smooth muscle: Alterations in essential hypertension." *PSEBM* 218:192–200, 1998 (subsequently referred to as the *PSEBM* paper);

B. by falsifying three of the four sets of the mean data that were in fact the same for both the F0 and F1 mean data in Figures 5 and 6 of the *Hypertension* 2000 paper #1. Dr. Gelband also dishonestly provided the institution with the falsified/fabricated tables of the mean data and the associated false standard error values as evidence that he had conducted the experiments for Figures 5 and 6; and

C. by falsifying EC₅₀ values in Table 1 in NIH grant application HL52189-05; the EC₅₀ values had been interpolated from the falsified mean and SEM data

shown in Figures 5 and 6 in the *Hypertension* 2000 paper #1.

II. Dr. Gelband falsified data in the reporting of research, misrepresenting current/voltage (I/V) data to be results from totally different experimental models or preparations in six publications (including one manuscript "In-Press") and in NIH grant application HL52189-05, specifically:

A. as Figure 1A, in Gelband, C.H., Wang, H., Gardon, M.L., Keene, K., Goldberg, D.S., Reaves, P., Katovich, M.J., Raizada, M.K. "Angiotensin 1-converting enzyme antisense prevents altered renal vascular reactivity, but not high blood pressure, in spontaneously hypertensive rats." *Hypertension* 35 [part 2]:209–213, 2000 (subsequently referred to as the "Hypertension 2000 paper #2").

B. as Figure 2, in Martens, J.R., Fergus, D.J., Tamkun, M.M., England, S.K., Gelband, C.H. "Identification of voltage-gated K⁺ channel genes contributing to the decreased renal arteriolar K⁺ current in hypertension." *J. Biol. Chem* (MS M01389200), online, in press (subsequently referred to as the "JBC paper"). *J. Biol Chem Online* (submitted and withdrawn).

C. as Figure 4A, in Gelband, C.H. "Protein kinase C regulation of renal vascular Kv and Ca⁺⁺ channels in hypertension." *Hypertension Online* paper, withdrawn (subsequently referred to as the "Hypertension Online paper").

D. as Figure 3, in Gelband, C.H., Reaves, P.Y., Evans, J., Wang, H., Katovich, M.J., & Raizada, M.K. "Angiotensin II Type 1 receptor antisense gene therapy prevents altered renal vascular calcium homeostasis in hypertension." *Hypertension* 33[part II]:360–365, 1999 (subsequently referred to as the "Hypertension 1999 paper").

E. as Figures 4A and 4B in Martens, J.R., Reaves, P.Y., Lu, D., Katovich, M.J., Berecek, K.H., Bishop, A.P., Raizada, M.K., & Gelband, C.H. "Preventions of renovascular and cardiac pathophysiological changes in hypertension by angiotensin II type 1 receptor antisense gene therapy." *Proc. Natl. Acad. Sci.* 95:2664–2669, 1998 (subsequently referred to as the "PNAS paper").

F. as Figure 5A, in Reaves, P.Y., Gelband, C.H., Wang, H., Yang, H., Lu, D., Berecek, K.H., Katovich, M.J., Raizada, M.K. "Permanent cardiovascular protection from hypertension by the AT1 receptor antisense gene therapy in hypertensive rat offspring." *Circ. Res.* 85:344–350, 1999 (subsequently referred to as the "Circ. Res. 1999 paper").

1. Dr. Gelband also falsified data in the proposing of research by submitting the above data as Figures 3, 14A, 14B, and 15 in NIH grant application HL52189-05.

III. Dr. Gelband falsified traces of potassium currents in Figure 4 of the *J. Biol. Chem* paper (see PHS Finding II) where they were claimed to have been recorded from smooth muscle cells from rats treated with antisense to potassium channels, and/or in Figure 3 of the *Hypertension Online* paper (see PHS Finding II) where they were claimed to have been recorded from rat renal cells treated with phorbol esters and PKC inhibitors. Furthermore, the potassium currents were recorded from neurons, not from smooth muscles as falsely reported in these publications.

Dr. Gelband falsified data in the proposing of research by submitting the falsified traces of potassium currents as Figure 9 in NIH grant application HL52189-05.

IV. Dr. Gelband falsified data by claiming in Figure 8 of NIH grant application HL52189-05 and in Figure 2 of the *Hypertension Online* paper (see PHS Finding II) to have generated in his laboratory Western blot data on protein kinase C isoenzymes in renal vascular smooth muscle cells, while in fact the data were actually from cultured neurons collected in another laboratory and published in Pan, S.J., Zhu, M., Raizada, M.K., Summers, C., & Gelband, C.H. "Angiotensin II-mediated inhibition of neuronal delayed rectifier K⁺ current: Role of protein kinase C-α." *American Journal of Physiology* 281:C17–C23, 2001 (subsequently referred to as the *AJP* paper).

V. Dr. Gelband falsified data by misrepresenting experimental traces he provided as the unnumbered topmost figure on Page 26 of NIH grant application HL69034-01, as being recordings showing effect of indolactam inhibition in posterior cerebral arteriolar smooth muscle cells, while the identical tracings had been published by Dr. Gelband as Figures 2C and 7D of the *AJP* paper (see PHS Issue 4), where they had been reported as being tracings from neuronal cells.

VI. Dr. Gelband falsified data in the unnumbered rightmost figure on Page 25 of NIH grant application HL69034-01, by misrepresenting the data as showing potential changes induced in cerebral arterial myocytes by IP3 and heparin, while the same data were published by Dr. Gelband as Figure 5C in a 1997 publication: Gelband, C.H. & Gelband, H. "CA²⁺ release from intracellular stores is an initial step in hypoxic pulmonary vasoconstriction of rat pulmonary artery resistance vessels."