

Retraction: Decline in NRF2-regulated Antioxidants in Chronic Obstructive Pulmonary Disease Lungs Due to Loss of Its Positive Regulator, DJ-1; Heightened Endoplasmic Reticulum Stress in the Lungs of Patients with Chronic Obstructive Pulmonary Disease: The Role of Nrf2-Regulated Proteasomal Activity

The *American Journal of Respiratory and Critical Care Medicine* is retracting two articles with the agreement of the authors (despite repeated attempts, one coauthor could not be located): “Decline in NRF2-regulated antioxidants in chronic obstructive pulmonary disease lungs due to loss of its positive regulator, DJ-1” (1); and “Heightened endoplasmic reticulum stress in the lungs of patients with chronic obstructive pulmonary disease: the role of Nrf2-regulated proteasomal activity” (2). An Expression of Concern has been previously published regarding these two articles (3).

The authors provided the *Journal* with a statement that includes results from an official investigation conducted by the Johns Hopkins School of Public Health. The statement enumerates problems with figures in the 2008 article (1). It states that Figures 1C and 2B contain separate blot images spliced together to represent one image without appropriate demarcation. Additionally, Figures 1C and 2B, representing two different experiments, contain the same glyceraldehyde phosphate dehydrogenase (GAPDH) panel. Figures 5A and 5D, representing two different experiments, contain portions of the same GAPDH panel. The NQO1 (NADPH:quinone oxidoreductase 1) and GAPDH panels in Figure 6B contain separate blot images spliced together to represent one image without appropriate demarcation.

The statement also lists problems with the figures in the 2009 article (2). It states that Figures 1A and 2A contain GAPDH panels that do not align with the lanes in the panels above. Additionally, Figures 1A and 2A, representing two different experiments, contain the same GAPDH panel. Figure 3A, representing mouse samples, contains a portion of the GAPDH panel from Figure 4C representing human samples. Figure 4C contains two separate blot images representing normal and moderate chronic obstructive pulmonary disease without appropriate demarcation.

The authors apologize to the readers of the *Journal*. ■

References

1. Malhotra D, Thimmulappa R, Navas-Acien A, Sandford A, Elliott M, Singh A, Chen L, Zhuang X, Hogg J, Pare P, Tuder RM, Biswal S. Decline in NRF2-regulated antioxidants in chronic obstructive pulmonary disease lungs due to loss of its positive regulator, DJ-1. *Am J Respir Crit Care Med* 2008;178:592–604.
2. Malhotra D, Thimmulappa R, Vij N, Navas-Acien A, Sussan T, Merali S, Zhang L, Kelsen SG, Myers A, Wise R, Tuder R, Biswal S. Heightened endoplasmic reticulum stress in the lungs of patients with chronic obstructive pulmonary disease: the role of Nrf2-regulated proteasomal activity. *Am J Respir Crit Care Med* 2009;180:1196–1207.
3. Expression of concern: decline in NRF2-regulated antioxidants in COPD lungs due to loss of its positive regulator, and heightened endoplasmic reticulum stress in the lungs of patients with COPD. *Am J Respir Crit Care Med* 2014;190:1200.

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