Correction

Correction: Functional EF-Hands in Neuronal Calcium Sensor GCAP2 Determine Its Phosphorylation State and Subcellular Distribution *In Vivo*, and Are Essential for Photoreceptor Cell Integrity

The PLOS Genetics Staff

Figure 1 is incorrect. In panel D the bGCAP2E 3m panel (top right) is identical to the bEF-GCAP2A 40d panel (middle left). The authors have provided a corrected version here.

Citation: The PLOS Genetics Staff (2014) Correction: Functional EF-Hands in Neuronal Calcium Sensor GCAP2 Determine Its Phosphorylation State and Subcellular Distribution *In Vivo*, and Are Essential for Photoreceptor Cell Integrity. PLoS Genet 10(10): e1004744. doi:10.1371/journal.pgen.1004744

Published: October 17, 2014

Copyright: © 2014 The PLOS Genetics Staff. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Diagram illustrating the domain structure of the MOP protein and the positions of wildtype and mutant sequences. The MOP protein is shown as a linear sequence with domains: MOP, GCAP2, and MP1. The MOP domain is further divided into EF-1, EF-2, EF-3, and EF-4. The positions of wildtype and mutant sequences are indicated below the domain structure.

	EF-1	EF-2	EF-3	EF-4
positions wildtype	X Y Z -Y-X -Z DTNGDNTIDFLE	X Y Z -Y-X -Z DKDRNGCIDRQE	X Y Z -Y-X -Z DENGDGQLSLNE	
mutations		Q 80	Q 116	N 158

Western blot analysis showing Hsp70 expression levels in WT, E, A, and B strains. The blot shows a single band for Hsp70 in each lane, with increasing intensity from WT to E, A, and B.

Western blot analysis showing protein levels of PDE α,β , PDE γ , GC1, and GC2 in WT, A, and B strains. The blot shows bands for each protein across the three strains. PDE α,β and PDE γ are present in all strains, while GC1 and GC2 are present in WT and A strains but absent in the B strain.

D

40d

3m

bGCAP2 E

bEF-GCAP2 A

bEF-GCAP2 B

20 μ m

Figure D displays a 3x2 grid of histological sections of the retina. The columns are labeled '40d' and '3m', representing time points. The rows are labeled 'bGCAP2 E', 'bEF-GCAP2 A', and 'bEF-GCAP2 B', representing different experimental groups. The sections show the layered structure of the retina, including the photoreceptor layer (outermost, dark) and the inner plexiform layer (lighter). A scale bar of 20 μ m is located at the bottom right.

Figure 1. Transgene expression of bEF⁻GCAP2 in rods leads to retinal degeneration. A. Design of transgene expression vector. The cDNA of bovine GCAP2 with the three functional EF hands disrupted [GCAP2 (E80Q, E116Q, D158N) or bEF⁻GCAP2] was expressed under the mouse opsin promoter (MOP), with the polyadenylation signal of the mouse protamine 1 (MP1) gene. B. Western showing the level of expression of the transgene in bGCAP2 line E and bEF⁻GCAP2 lines A and B, compared to wildtype mice. Equivalent fractions of a retina were resolved by SDS-PAGE from wt (22 d of age), line E (40 d) and lines A (40 d) and B (22 d, showed from independent gel). An earlier time point was chosen for the strongest line (B) to reduce the effect that its rapid retinal degeneration has on total retinal protein content. Bovine and murine GCAP2 differ in size by three amino acids and can be distinguished by mobility. C. Compensatory changes in proteins involved in cGMP metabolism were not observed. The levels of PDE α , β and γ subunits, or GC1 and GC2 were mostly unaffected in mice from line A, whereas a reduction in all proteins was observed in line B at 22 d of age, due to the shortened outer segments in this line. D. Light micrographs of retinal sections from mice expressing bGCAP2 (line E) or bEF⁻GCAP2 transgene (lines A and B) in the GCAPs^{+/+} background at 40 d or 3 m. doi:10.1371/journal.pgen.1004480.g001

Reference

1. Hoyo NL-d, López-Begines S, Rosa JL, Chen J, Méndez A (2014) Functional EF-Hands in Neuronal Calcium Sensor GCAP2 Determine Its Phosphorylation State and Subcellular Distribution *In Vivo*, and Are Essential for Photoreceptor Cell Integrity. *PLoS Genet* 10(7): e1004480. doi:10.1371/journal.pgen.1004480