Selected Publications List: Total Protein Normalization in Western Blotting Using Stain-Free Technology

Stain-Free Western Blotting

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As of December 2018, there were over 1,600 published scientific studies that took advantage of Stain-Free western blotting, including those published in high-impact journals such as *Nature*. Researchers are increasingly discovering the utility, convenience, and reliability of this workflow that utilizes stain-free gel and blot imaging technology to enable total protein normalization, a technique for reporting semi-quantitative western blot results preferred by journals such as the *Journal of Biological Chemistry*. Below is a selection of research articles that highlights the advantages of Stain-Free western blotting.

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Selected Publications

Lessard SJ et al. (2018).
JNK regulates muscle remodeling via myostatin/SMAD inhibition.
Nat Commun 9, 3,030.

Lorenz L et al. (2018).
Mechanosensing by β1 integrin induces angiocrine signals for liver growth and survival.
Nature 562, 128–132.

Orchard RC et al. (2018).
Sphingolipid biosynthesis induces a conformational change in the murine norovirus receptor and facilitates viral infection.
Nat Microbiol 3, 1,109–1,114.

Tin A et al. (2018).
Large-scale whole-exome sequencing association studies identify rare functional variants influencing serum urate levels.
Nat Commun 9, 4,228.

Bass JJ et al. (2017).
An overview of technical considerations for western blotting applications to physiological research.
Scand J Med Sci Sports 27, 4–25.

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Moritz CP (2017).
Tubulin or not tubulin: Heading toward total protein staining as loading control in western blots.
Proteomics 17, 201600189.

Tramutola A et al. (2016).
Activation of p53 in Down syndrome and in the Ts65Dn mouse brain is associated with a pro-apoptotic phenotype.
J Alzheimers Dis 52, 359–371.

Zeitler AF et al. (2016).
Optimized semi-quantitative blot analysis in infection assays using the stain-free technology.
J Microbiol Methods 126, 38–41.

Collins MA et al. (2015).
Total protein is an effective loading control for cerebrospinal fluid western blots.
J Neurosci Methods 251, 72–82.

Vigelsø A et al. (2015).
GAPDH and β-actin protein decreases with aging, making stain-free technology a superior loading control in western blotting of human skeletal muscle.
J Appl Physiol 118, 386–394.

Rivero-Gutiérrez B et al. (2014).
Stain-free detection as loading control alternative to Ponceau and housekeeping protein immunodetection in western blotting.
Anal Biochem 467, 1–3.

Gilda JE and Gomes AV (2013).
Stain-free total protein staining is a superior loading control to β-actin for western blots.
Anal Biochem 440, 186–188.

Gürtler A et al. (2013).
Stain-free technology as a normalization tool in western blot analysis.
Anal Biochem 433, 105–111.

Hammond M et al. (2013).
A method for greater reliability in western blot loading controls: Stain-free total protein quantitation.
Bio-Rad Bulletin 6360.

Li R and Shen Y (2013).
An old method facing a new challenge: Re-visiting housekeeping proteins as internal reference control for neuroscience research.
Life Sci 92, 747–751.

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Posch A et al. (2013).
V3 stain-free workflow for a practical, convenient, and reliable total protein loading control in western blotting.
J Vis Exp 82, 50948.

Taylor SC et al. (2013).
A defined methodology for reliable quantification of western blot data.
Mol Biotechnol 55, 217–226.

Colella AD et al. (2012).
Comparison of stain-free gels with traditional immunoblot loading control methodology.
Anal Biochem 430, 108–110.

Visit **bio-rad.com/StainFree** for more information about total protein normalization and Stain-Free western blotting.

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