3D Cell Culture, Drug Screening and Optimization

By JBS Guest Editors Richard Eglen, PhD (Corning Life Sciences) and Jean-Louis Klein, PhD (GlaxoSmithKline)

The Journal of Biomolecular Screening (JBS) invites the submission of abstracts on topics related to 3D cell culture for publication in a 2017 special issue. Abstract proposals will be used to select and invite papers for review and consideration. JBS is looking for high-quality, short or full length research papers, reviews and perspective articles related to all aspects of 3D culture. Areas of interest include but are not limited to:

- Comparative gene expression, protein function and physiology of immortalized and primary cells in 2D vs. 3D cell culture
- Comparative pharmacology of compound screening in 2D vs 3D cell culture methods
- Evaluation of cell differentiation, growth and motility, and their modulation by novel small molecules and biologics, in 2D vs. 3D cell culture systems
- Optimizing matrices and scaffolds for 3D culture and screening
- Optimization of assay reagents and protocols for 3D compound screening and lead optimization
- Applications of gene editing technologies to 3D cell culture
- Uses of stem cells and iPS cells in 3D cell culture for compound screening
- Applications of 3D cell culture to primary cell-based screening
- Use of 3D cell culture in co-culture approaches to drug screening and compound optimization
- Use of 3D cell culture in cellular imaging and high-content screening
- Use of 3D cell culture in phenotypic screening, and comparison with 2D approaches
- In vivo 3D models of cellular metabolism, particularly cancer cells, neuronal cells, hepatocytes and cardiomyocytes
- New technologies to monitor tumor formation and modulation in vitro using 3D culture methodology
- Organoid culture methods for use in target identification, compound screening and optimization
- Organ-on-a-chip microfluidic technologies to evaluate drug toxicity and metabolic liability
- Novel techniques measuring live cell activities in 3D systems

Submit your abstract before June 1, 2016

1. Submit a title and abstract (up to 500 words) as an MSWord document/attachment to nhallock@slas.org. Please refer to the JBS Instructions for Authors at www.slas.org/publications/scientific-journals/author-instructions.

2. Include “JBS Special Issue / 3DCELL” in the subject line of your e-mail.

3. Include your name, affiliation and contact info in the text of the e-mail and in your MSWord document.

Invited authors will be notified by June 10, 2016. Final manuscripts and related materials will need to be completed and submitted by Oct. 1, 2016. All submitted articles will be subject to peer-review to ensure scientific rigor, clarity of expression and integration with other contributions in the JBS Special Issue. Submissions from SLAS members and nonmembers are welcome. Questions? Please e-mail nhallock@slas.org or call +1.630.256.7527, ext. 106.