

## MISpheroid: a knowledgebase and transparency tool for minimum information in spheroid identity

**Commonly used acronym:** MISpheroid

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### Organisation

**Name of the organisation** Ghent University (UGent)

**Department** Department of Human Structure and Repair

**Country** Belgium

**Geographical Area** Flemish Region

## SCOPE OF THE METHOD

<b>The Method relates to</b>	Other: transparency and reproducibility in 3D culture conditions such as spheroids, organoids, etc
<b>The Method is situated in</b>	Basic Research, Education and training, Translational - Applied Research
<b>Type of method</b>	Other: knowledgebase and transparency tool

## DESCRIPTION

### Method keywords

3D cel culture  
spheroids  
organoids  
Reproducibility  
transparency  
standardization

### Scientific area keywords

spheroids  
reproducibility  
in vitro 3D modelling  
transparency  
standardization

### Method description

Spheroids are three-dimensional cellular models with widespread basic and translational application across academia and industry. However, methodological transparency and guidelines for spheroid research have not yet been established. The MISpheroid

Consortium developed a crowdsourcing knowledgebase that assembles the experimental parameters of 3,058 published spheroid-related experiments. Interrogation of this knowledgebase identified heterogeneity in the methodological setup of spheroids. Empirical evaluation and interlaboratory validation of selected variations in spheroid methodology revealed diverse impacts on spheroid metrics. To facilitate interpretation, stimulate transparency and increase awareness, the Consortium defines the MISpherolD string, a minimum set of experimental parameters required to report spheroid research. Thus, MISpherolD combines a valuable resource and a tool for three-dimensional cellular models to mine experimental parameters and to improve reproducibility.

### Lab equipment

no

### Method status

Published in peer reviewed journal

## PROS, CONS & FUTURE POTENTIAL

### Advantages

Thus, MISpherolD is a unique open-access resource that facilitates systematic reporting on essential spheroid methodology with the aim to increase consistency and awareness in both academic and industrial research environments.

### Challenges

Keep it updated and keep it active in the long term.

### Modifications

Include additional essential spheroid methodological aspects based on empirical evidence.

### Future & Other applications

Other emerging 3D model systems, such as organoids and self-renewing multicellular aggregates that self-organize into lumen-containing ex-vivo organs, may also benefit from the MISpherolD tool to improve transparency and document heterogeneity.

## REFERENCES, ASSOCIATED DOCUMENTS AND OTHER INFORMATION

### References

Peirsman, A.; Blondeel, E.; MISpherolD consortium; De Wever, O. (2021) MISpherolD: a knowledgebase and transparency tool for minimum information in spheroid identity. Nat. Methods 18, 1294–1303

### Associated documents

[MISpherolD.pdf](#)

### Links

[MISpherolD: a knowledgebase and transparency tool for minimum information in sp...](#)

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