

Master in Biomedicine

Subject Name Cell Culture and Tissue Engineering

Credits ECTS 3

Coordinator Manuel Reina and Marta Giralt

Program

1. Biology of cultured cells. Similarities and differences respect to cells in tissues.
2. Cell culture media: liquid, solid and gas phases.
3. Cell culture facilities: laboratory design and layout, equipment, and safety regulations.
4. Primary cell culture versus stable cell lines.
5. Basic techniques for primary culture.
6. Techniques for cell line characterization. Cell differentiation and transdifferentiation in culture.
7. Techniques for cell transformation.
8. Cell and Tissue Engineering
9. The use of cell models.

Practical lectures.

Bibliography

FRESHNEY, R. I. Culture of Animal Cells: a manual of basic technique. 6th edition. Wiley Liss, 2010

MEYERS, R (ed.). Stem cells: from biology to therapy. Weinheim: Wiley-VCH, 2013

SHAW, A.J. (ed.). Epithelial cell culture: a practical approach. Practical Approach Series, IRL Press, 1996

HORCH, R.E.; MUNSTER, A.E. y ACHAUER, B.M. Cultured Human Keratynocites and Tissue Engineering Skin Substitutes. Thieme, 2001

Guía Técnica para la evaluación y prevención de los riesgos relacionados con la Exposición a Agentes Biológicos. Instituto Nacional de Seguridad e Higiene en el Trabajo del Ministerio de Trabajo y Asuntos Sociales.

See: <http://www.mtas.es/insht/practice/guias.htm>