

## UMR 866 - Muscle dynamics and metabolism (DMEM)

### SUPERVISORY BODIES



### OTHER SUPERVISORY BODIES

Université de Montpellier

### UNIT MANAGER

Anne BONNIEU

### LOCATION

**Region :** Occitanie (Montpellier)

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Work by DMEM aims to better understand regulation of the development of muscle tissue of agricultural interest. Antenatal muscle development processes (embryonic and foetal myoblasts) and post-natal processes (satellite cells that are also involved in muscle regeneration) are considered concomitantly. The involvement of adult stem cells in muscle regeneration processes is also studied.

These themes are notably developed by studying the influence of myostatin, thyroid hormones and retinoids on early events in the development of muscle fibres and myoblast differentiation, as well as the molecular mechanisms involved. Studies on thyroid hormones have led to the discovery of new receptors located in the mitochondria. In particular, they have enabled the development of a research theme focused on how these organelles are involved in diseases associated with the consumption of high-calorie diets. In vitro methods are used on cell cultures of myoblasts (lines and primary cultures), while in vivo methods use rat and mouse models and transgenic mice (knock-out or targeted over-expression).

The numerous results obtained will, in the longer term, open the way to medical applications (myopathies, muscle regeneration, cell therapy).

**Unit website :** <https://www6.montpellier.inra.fr/dmem>

### DOCTORAL SCHOOL(S)

SMH

**DS 463 - Human Movement Sciences**

**Website :** <https://ecole-doctorale-463.univ-amu.fr>

**Co-accredited institutions :** Université d'Aix-Marseille, Université Côte d'Azur, Université de Montpellier, Avignon Université

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