



CDB SEMINAR

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Wednesday, April 5

16:00~17:00 C1F CDB Auditorium

P63 and Epithelial Stemness

Summary

The morphogenesis and regeneration of epithelial tissues, such as skin, prostate, mammary gland and urothelia, largely depends on a specialized population of stem cells with a remarkable capacity for cell division. Despite the significance of these regenerative processes, we know little of the genetic programs underlying the proliferative potential of the epithelial stem cells. The tumor suppressor p53 homolog, p63, is highly expressed in the basal layers of the stratified epithelia, and p63-null mice show a remarkable epithelial dysgenesis. There are currently two contradictory hypotheses in the field for the function of p63. One suggests p63's involvement in the epithelial lineage commitment and differentiation processes, while the other suggests that p63 is the epithelial stem cell factor. Using an unusual thymic hypoplasia found in p63-deficient mice as a model, we examined the functional properties of p63 in the epithelial development. Our data suggest that p63 is dispensable to the commitment and differentiation processes, however, it has a crucial role in the maintenance of the proliferative potential in the epithelial stem cells. Loss of p63, therefore, converts genetic programs of the epithelial stem cells into the state of lowered capacity of proliferative potential marked by an increase in senescence and apoptosis. Collectively, this talk will show evidence that this p53 family member is essential for the maintenance of the epithelial "stemness".

Host:

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