Why is cancer so rare?
How tumour suppressors protect us

Professor Karen Vousden

7:30 p.m., 22nd January 2014

Biography

Karen Vousden is the Director of the Cancer Research UK Beatson Institute in Glasgow. Her research is focused on understanding the tumour suppressor protein p53, identifying how its function is lost in cancers and exploring ways in which p53 might be reactivated for cancer therapy.

Abstract

Although we all understand the unpleasant truth that at least one in three of us will develop cancer at some point in our lives, this alarmingly high incidence hides the underlying rarity of the malignant event. Cancer represents the failure to control the proliferation of a single cell and the selection of increasingly abnormal clones that evolve to form an invasive tumour. Considering the number of cells in our bodies and the numbers of cell divisions that occur throughout our lives, the truly astonishing fact is that things don't go wrong more often. Part of the reason for this is that we are strongly protected by tumour suppressor genes, which act as failsafe mechanisms to eliminate incipient cancers. One particularly important tumour suppressor is p53, which helps to prevent all types of cancer. Understanding how guardians like p53 function is a key aim for many of us trying to develop new ways to treat cancer.