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Viral killer

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The ability to selectively kill cells lacking normal p53 activity is an attractive anti-cancer strategy. In the August 30 *Nature*, Kenneth Raj and colleagues from the [Swiss Institute for Experimental Cancer Research](#) (ISREC) suggest that adeno-associated virus (AAV) could be employed as a 'hired assassin' (*Nature* 2001, **412**:914-917). They found that AAV induced apoptosis of p53-deficient osteosarcoma cells, but induced cell-cycle arrest (in G2 phase) in cells expressing p53. None of the proteins encoded by the [AAV genome](#) was required for either of these effects; hairpin structures within the single-stranded viral genome induce a DNA-damage response that leads to apoptosis in the absence of functional p53. Raj *et al.* show that AAV can inhibit tumor growth in mouse models and suggest that viral delivery of DNA with unusual structures could be used to induce a DNA-damage response and cell death in the treatment human tumors that have lost p53 activity.

References

1. *Nature* , [<http://www.nature.com>]
2. Swiss Institute for Experimental Cancer Research , [<http://www-isrec.unil.ch/>]
3. Nucleotide sequence and organization of the adeno-associated virus 2 genome.