Twisted Sisters

Gene mutations linked to disease delay

November 1, 1997

Do your eyes glaze over when reading about CCR5 and its kin, CCR2? Get over it. These “gateways for the virus” have helped trigger a research explosion in gene-based therapy. CCR5 first hit it big last year with the discovery that double and single genetic mutations in this CD4-cell receptor block HIV infection and delay progression to full-blown AIDS, respectively. Then, in an August "Eureka1’, a National Cancer Institute (NCI) team led by Stephen O’Brien reported that blood tests of 3,000 long-term survivors showed that 30 percent ha a mutation in yet another receptor, CCR2, which apparently works independently of CCR5. According to the study in September’s *Science*, people with this molecular morph develop AIDS three to four years later than those with the unaltered gene. The bottom-line for PWAs? “These altered genes tells us that nature has already devised an anti-HIV therapy without significant side effects,” O’Brien said. “If we can mimic the effects of these mutations, it may be possible to develop treatments that delay the onset of AIDS.” In fact, two such drugs are nearing clinical trials.

But then Danish scientists detected a burst of static in all this co-receptor reception: In a study of 99 men with HIV, the one-fifth with the single CCR5 mutation, once diagnosed, died much faster. Shaken, O’Brien’s team analyzed the blood of 2,000 people from five AIDS cohorts and found that the CCR5 variation did not quicken their diagnosis-to-death frequency. A second NIH study confirmed these results. In a letter in October’s *Lancet*, O’Brien debunks the Danish data, burnishing the buzz on the genes.