



## ...Get Wise to Y's

### The Technology

Y-STR analysis involves the examination of DNA on the Y chromosome, which is present only in males. The male-specific nature of this test is advantageous because it ignores any female DNA that may be present in a sample. Inherited from father to son along the paternal line, Y-STR profiles will be the same in any male individual descended from the same paternal line. Therefore, any paternal relative of a male suspect or victim could be tested in lieu of the male of interest.

Orchid Cellmark has validated two commercial Y-STR tests including ABI's Y-filer and Promega's Powerplex Y kits. Due to its increased sensitivity over conventional STR technology, Y-STR technology may be suitable in cases where routine autosomal STR analysis has failed. However, depending on the circumstances of the case, Y-STR analysis may be the first choice of technology.

### The Applications

- Sexual Assault cases – used when only a small amount of male DNA is present
- Post-conviction cases – evidence is old and degraded or a minimal amount of male DNA is present
- Cold cases – rape kit swab tips have been removed and only the swab sticks remain
- Assault or homicide cases – female victim fought off attacker by scratching him or suspect injured himself during an attack
- Conventional testing yields an incomplete male DNA profile
- Screening indicates the presence of seminal fluid but few or no sperm are present (possibly due to a vasectomy)
- Identification of human remains – through comparison to a paternal relative
- Kinship cases – a paternal relative can be tested in lieu of an alleged father
- Multiple males – used to clarify the number of male donors in a sample

### Suitable Sample Types

- Fingernail clippings or scrapings from a female assault victim
- Old rape kit swab tips, condoms, swab sticks, and undergarments
- New rape kit evidence including swabs, condoms, and panties
- Microscope slides which may contain male DNA
- Garments or items that are suspected to contain male DNA

Orchid Cellmark welcomes case consultations and would be happy to discuss the specifics of your case with you. Information on Pricing, Evidence Handling and Case Submission is available through the forensic link of our website.

For more information, please call or click:  
1-800-USA-LABS (872-5227) in the US  
1-866-TEST-DNA (837-8362) in Canada  
[www.orchidcellmark.com](http://www.orchidcellmark.com)