



SEMEN INFORMATION SHEET

PREAMBLE

Semen is a body fluid, also known as seminal fluid, which usually contains spermatozoa (i.e. sperm cells). It is secreted by the sexual glands of males and can fertilize female eggs. In addition to spermatozoa, seminal fluid contains several proteins. Vasectomized males still produce semen but it does not contain sperm cells. The process that results in the discharge of semen is called ejaculation.

TESTS AND LIMITATIONS

Semen is identified on items of evidence in a multi-step process. A visual examination combined with screening for the acid phosphatase enzyme is generally the first step in the process. Confirmation of the presence of semen requires either the identification of spermatozoa or the detection of a compound called p30.

- **Brentamine Fast Blue Test** This test involves the application of chemicals to stains or other areas of interest. Upon addition of the chemicals, a characteristic purple colour develops in the presence of acid phosphatase (AP). The more intense and rapid the colour development, the more likely the AP is to have originated from semen.

AP activity may occur with other bodily substances, sometimes at high levels, as well as with other biological organisms and chemicals.

AP is not expected to persist in a semen stain after it has been laundered (though sperm cells may be retained).
- **Microscopy** The identification of sperm cells is one means of confirming the presence of semen. Sperm cells are identified on the basis of their shape, size, and staining characteristics.
- **Seratec® PSA Semiquant Test** This is a test used to confirm the presence of p30 (aka PSA or Prostate Specific Antigen). The commercially produced test card specifically binds p30 and produces a distinct visual reaction when it does. p30 is found primarily in the liquid component of semen and its detection, coupled with a strong AP reaction, confirms the presence of semen. p30 may also be found, though more rarely, in other bodily fluids.

Deposition & Persistence

- Dried semen stains that have been deposited onto inert surfaces and which are undisturbed and otherwise protected from the elements are stable and detectable for many years.
- Exposure of semen stains to moisture, sunlight, heat or chemicals will increase the likelihood of degradation, which in turn may render stains undetectable and/or may damage any associated DNA.
- Following deposition in body cavities, semen is gradually lost. Semen has been detected in living persons:
 - for up to 7 days in the vagina
 - for up to 1 day in the mouth
 - for up to 2-3 days in the rectum

In most cases, persistence is for shorter periods of time.

- Small numbers of spermatozoa may be deposited onto items through innocuous means such as secondary transfer.