

## References

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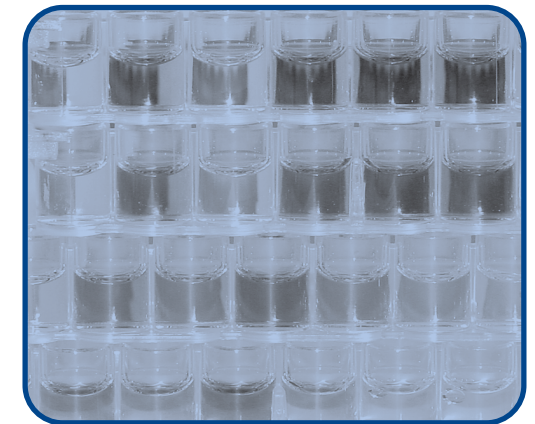
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# Faecal Elastase-1 Test of Exocrine Pancreatic Function

FE-1 [E.C. 3.4.21.36]

## Clinical Biochemistry



## Sending Specimens for Analysis

**Sample requirement:** A random stool sample provided in a suitable container.

- Faecal Elastase-1 is stable in faeces at room temperature for up to 1 week and for 1 month stored at 4°C.
- Please send samples in a sealed bag at ambient temperature, to arrive at the address on the back of this leaflet within 3 days.

### Neonatal Samples

It may take up to day 3 of life in term infants, and up to day 14 if <28 weeks gestation, to reach normal Faecal Elastase-1 levels. Repeat testing is recommended to confirm insufficiency detected before this time. Faecal Elastase-1 levels in meconium are typically low and this sample type is not recommended.

### Faecal Elastase-1 Assay

Faecal Elastase-1 concentration in stools is determined using an enzyme-linked immunosorbant assay (ScheBo® Pancreatic Elastase-1 Stool Test)<sup>1</sup>. The human Faecal Elastase-1 antibody used is immunologically specific and is not affected by enzyme replacement therapies.

## Analysis of wet stool samples

High water content of stools can have a dilution effect on the concentration of Faecal Elastase-1 measured and give misleading low results. Our own audits have shown this affects 18% of all samples we receive. To overcome this problem we have developed a new pre-analytical technique for wet stools, which involves drying the stool sample prior to analysis<sup>2</sup>. Results obtained by the dried faecal method are now reported qualitatively to avoid the confusion of reporting against two very different reference ranges. Where a quantitative result is required, we suggest repeating faecal elastase-1 analysis when a more formed stool sample is available.

### Reference Ranges

|  | Faecal Elastase<br>(µg/g stool) |
|--|---------------------------------|
| Normal                                   | >200                            |
| Mild exocrine pancreatic insufficiency   | 100 - 200                       |
| Severe exocrine pancreatic insufficiency | <100                            |

## Clinical Use of Faecal Elastase

Faecal Elastase-1 is a proteolytic enzyme specifically secreted by the acinar cells of the pancreas. Unlike other pancreatic enzymes such as Chymotrypsin, Elastase-1 is not degraded during intestinal transit, and so the stool concentration reflects exocrine pancreatic function<sup>6</sup>.

Faecal Elastase-1 is increasingly being used as a non-invasive first line test to assess patients with chronic pancreatitis, cystic fibrosis, and other situations involving exocrine pancreas dysfunction<sup>3-5</sup>.

Faecal Elastase-1 measurement has been shown to be comparable to pancreatic function tests such as the pancreolauryl test and has higher sensitivity and specificity for pancreatic insufficiency than other pancreatic enzymes such as Faecal Chymotrypsin<sup>4,6</sup>.

Faecal Elastase-1 measurement has been shown to be reproducible over time with a mean intra-variation coefficient of 16% reported for patients with chronic pancreatitis over a period of 7 months<sup>7</sup>.

