

<b>Product Name</b>	<b>Liver Ferritin</b>	<b>P103-7 v1</b>
<b>Abbreviations</b>	N/A	
<b>Accession Number</b>	P02792 (light chain), P02794 (heavy chain)	
<b>Source</b>	Human Liver	
<b>Applications</b>	Biosensors, Life Science, Clinical Chemistry, Control Manufacture, ELISA Assay, Lateral Flow,	

<b>Protein Function</b>	Ferritin is an iron-containing protein that plays a major role in the storage and recycling of iron and its incorporation in the haem proteins (haemoglobin and the cytochromes) where it is required for oxygen transport and cellular respiration. (1) The protein takes up iron in the Fe(II) (ferrous) form where it is oxidised to the Fe(III) oxidation state and stored as a ferric-phosphate hydroxide within the centre of the ferritin oligomer. Free iron is toxic to most organisms because it is a source of free radicals via the iron redox cycle (Fenton cycle), Ferritin sequesters free iron and makes it available for use in a non-toxic form.
<b>Tissue Occurrence &amp; Abundance</b>	Ferritin is of ubiquitous distribution in all forms of life, both eukaryotic and prokaryotic. In humans, ferritin is present in large amounts in the liver, spleen, intestines and heart. The normal levels in blood are 30-300 ng/ml (males) and 15-200 ng/ml (females). In females, menstruation has a lowering effect on the levels of blood ferritin.
<b>Function in Disease</b>	The blood plasma ferritin level is a good measure of the total body iron store; consequently it is a useful indicator of iron storage deficiency, which may be indicative of iron-based anaemia. Raised levels may be indicative of various iron overload disorders such as haemochromatosis and also an acute phase response, although here its diagnostic value may be less clear-cut.
<b>Structure</b>	<p>Ferritin exists as a hollow shell comprising 24 light and heavy subunits, the precise ratio of which is tissue specific. Human liver ferritin consists mainly of heavy subunits. (2) In the purified form Ferritin may exist in multimeric forms.</p> <ul style="list-style-type: none"> <li>• Molecular weight 450,000 (24 subunits), light chain 19,888 &amp; heavy chain 21,0094</li> <li>• Amino acids 174 (light chain), 183 (heavy chain)</li> <li>• Disulphide bonds None, although each subunit has one surface cysteine residue, which may be involved in inter-subunit disulphide bond formation.</li> <li>• pI value(s) 4.8-5.8 (3)</li> <li>• Prosthetic group none</li> <li>• Glycosylation Yes</li> <li>• Oligomerisation 24 subunits. Ferritin may polymerise to form stable polymers called haemosiderin. (4)</li> <li>• Isoforms The light and heavy chains may associate in various proportions.</li> </ul>
<b>References</b>	<ol style="list-style-type: none"> <li>1. Addison, J.M., Fitton, J.E., Lewis W.G., May K., Harrison P.M. (1983) The amino acid sequence of human liver apoferritin FEBS 164, 139-144</li> <li>2. Arosio, P., Adelman, TG., Drysdale, JW. (1978) On Ferritin Heterogeneity: Further Evidence for Heteropolymers J. Biol. Chem. 253, 4451-4458</li> <li>3. Jappelli, R., Cesareni, G. (1996) Loop mutations affect ferritin solubility causing non-</li> </ol>

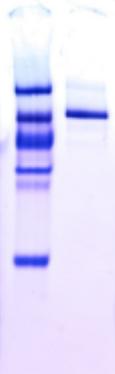
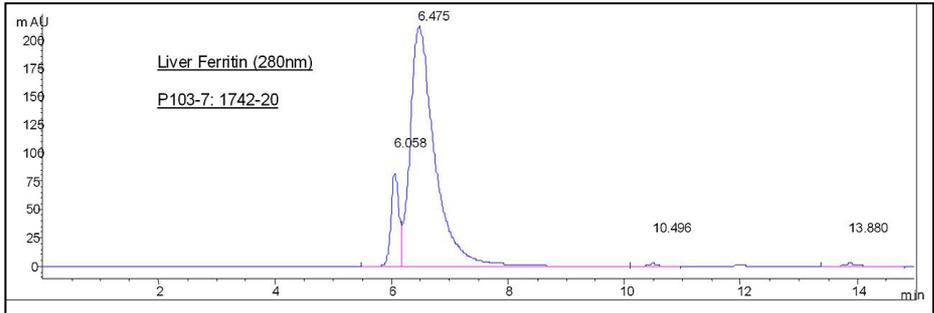


native aggregation of subunits or precipitation of fully assembled polymers FEBS Letters 394, 311-315  
 4. Hoy, TG., Jacobs, A. (1981) Ferritin Polymers and the Formation of Haemosiderin, J. Haematol. 49, 593-602

**WHY BBI**

- ✓ Our production facilities allow us to offer **large batch sizes** ranging from 100ug to g quantities.
- ✓ With a network of global labs and hospitals, we can access many diverse testing platforms, providing you with the exact **analysis results you need**.
- ✓ With over 25 years' experience sourcing human biologicals at our HTA approved site, you can be confident in a **secure supply**.

**Ordering Details – use the following codes when ordering**

<b>Purity</b>	>96% pure
<b>Stability &amp; Formulation</b>	Supplied in a 0.2µm filtered in a TRIS Buffer containing 0.09% sodium azide preservative - Store at 2 - 8°C
<b>4-20% Native PAGE &amp; Size exclusion HPLC</b>	 

Product	Code	Description
Liver Ferritin	P103-7	> 96% pure   supplied in a TRIS buffer   sourced from human liver

<b>Related Products</b>	<b>BM210-P3A8</b>	Ferritin mAb recommended as a detection antibody in ELISA
	<b>SF103-2</b>	Human serum depleted in Ferritin to < 1.0 µg/L

**Get in touch to order an evaluation sample, or purchase directly at [www.bbisolutions.com](http://www.bbisolutions.com)**

