What is claimed is:

1. An isolated polypeptide consisting essentially of an NPP1 component and an Fc region of an immunoglobulin, wherein the NPP1 component is a truncated NPP1 comprising the cysteine rich region and a catalytic domain having pyrophosphatase and/or phosphodiesterase activity but having the N-terminal cytosolic and transmembrane domains removed, and wherein said Fc region is linked to the C-terminus of the NPP1 component.

2. The polypeptide of Claim 1, wherein said NPP1 component has the amino acid sequence set forth in P99 through D925 of SEQ ID NO: 1.

3. The polypeptide of Claim 1 having the amino acid sequence set forth in SEQ ID NO: 22, optionally without the signal peptide at its N-terminus.

4. The polypeptide of Claim 3, wherein said polypeptide forms a homodimer.

5. An isolated nucleic acid encoding the polypeptide of Claim 1, wherein the nucleic acid comprises a DNA sequence encoding the NPP1 component and a DNA sequence encoding the Fc region, wherein the 3' end of the DNA sequence encoding the NPP1 component is ligated, with or without a linker, to the 5' end of the DNA sequence encoding the Fc region so that the reading frames of the sequences are in phase.

6. The nucleic acid of claim 5 having a nucleotide sequence as set forth in SEQ ID NO: 21.

7. An expression vector carrying the isolated nucleic acid of Claim 5.

8. A process for producing an isolated polypeptide as claimed in claim 1, the process comprising expression of the DNA sequences of claim 5 into a single fusion protein that has the biological activity of said NPP1 component and said Fc region.

9. A pharmaceutical composition comprising the polypeptide of any one of Claims 1 to 3 in combination with a pharmaceutically acceptable carrier, diluent or excipient.

10. A pharmaceutical composition comprising the isolated polypeptide of Claim 1 for use in therapy.

11. A pharmaceutical composition comprising the isolated polypeptide of Claim 1 for use in the treatment of arterial blockage, generalized arterial calcification of infancy, insulin resistance, hypophosphatemic rickets, or ossification of the posterior longitudinal ligament of the spine.

12. Use of a pharmaceutical composition comprising the isolated polypeptide of Claim 1 in the manufacture of a medicament for use in the treatment of arterial blockage, generalized arterial calcification of infancy, insulin resistance, hypophosphatemic rickets, or ossification of the posterior longitudinal ligament of the spine.