



# Recombinant Protein Technical Manual

## Recombinant Human Osteopontin/SPP1 Protein (His Tag)

RPE1255

### Product Data:

**Product SKU:** RPE1255

**Size:** 10µg

**Species:** Human

**Expression host:** Human Cells

**Uniprot:** P10451

### Protein Information:

**Molecular Mass:** 34.8 kDa

**AP Molecular Mass:** 75 kDa

**Tag:** C-6His

**Bio-activity:**

**Purity:** > 95 % as determined by reducing SDS-PAGE.

**Endotoxin:** < 1.0 EU per µg as determined by the LAL method.

**Storage:** Lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.

**Shipping:** This product is provided as lyophilized powder which is shipped with ice packs.

**Formulation:** Lyophilized from a 0.2 µm filtered solution of 20mM PB, 150mM NaCl, pH 7.2.

**Reconstitution:** Please refer to the printed manual for detailed information.

**Application:**

**Synonyms:** Osteopontin; Bone Sialoprotein 1; Nephropontin; Secreted Phosphoprotein 1; SPP; Urinary Stone Protein; Uropontin; SPP1; BNSP; OPN

## Immunogen Information:

**Sequence:** Ile17-Asn314

## Background:

Secreted Phosphoprotein 1 (SPP1) is a secreted multifunctional glycoprotein. Its putative functions include roles in bone metabolism, immune regulation, wound healing, cell survival, and tumor progression. Based on gene structure and chromosomal location, SPP1 is a member of the small integrin-binding ligand N-linked glycoprotein (SIBLING) family that also includes bone sialoprotein (BSP), dentin matrix protein 1 (DMP1), dentin sialophosphoprotein (DSPP), enamelin (ENAM), and matrix extracellular phosphoglycoprotein (MEPE). SPP1 is expressed in bone, although it is also expressed in other tissues. SPP1 acts as a cytokine that is involved in enhancing production of interferon-gamma and interleukin2 and reducing production of interleukin0. It is essential in the pathway that leads to type I immunity. Osteopontin has been implicated as an important factor in bone remodeling. Specifically, research suggests it plays a role in anchoring osteoclasts to the mineral matrix of bones. The fact that SPP1 interacts with multiple cell surface receptors which are ubiquitously expressed makes it an active player in many physiological and pathological processes including wound healing, bone turnover, tumorigenesis, inflammation and ischemia. Therefore, manipulation of plasma Osteopontin levels may be useful in the treatment of autoimmune diseases, cancer metastasis, osteoporosis and some forms of stress.