



Recombinant Protein Technical Manual  
Recombinant Human CALR/Calreticulin Protein (His  
Tag)  
RPES3863

#### Product Data:

**Product SKU:** RPES3863

**Size:** 20µg

**Species:** Human

**Expression host:** HEK293 Cells

**Uniprot:** P27797

#### Protein Information:

**Molecular Mass:** 47.4 kDa

**AP Molecular Mass:** 58 kDa

**Tag:** C-His

**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 sterile PBS, pH 7.4

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

**Application:**

**Synonyms:** cC1qR;CRT;HEL-S-99n;RO;SSA

## Immunogen Information:

**Sequence:** Met 1-Ala413

## Background:

Calreticulin is a multifunctional protein. It acts as a main  $\text{Ca}^{2+}$ -binding (storage) protein in the lumen of the endoplasmic reticulum. Calreticulin binds  $\text{Ca}^{2+}$  ions (a second messenger in signal transduction), rendering it inactive. The  $\text{Ca}^{2+}$  is bound with low affinity, but high capacity, and can be released on a signal. Located in storage compartments associated with the endoplasmic reticulum, calreticulin also binds to misfolded proteins and prevents them from being exported from the endoplasmic reticulum to the golgi apparatus. The amino terminus of calreticulin interacts with the DNA-binding domain of the glucocorticoid receptor and prevents the receptor from binding to its specific glucocorticoid response element. Calreticulin reduces the binding of androgen receptor to its hormone-responsive DNA element and inhibits androgen receptor and retinoic acid receptor transcriptional activities *in vivo*, as well as retinoic acid-induced neuronal differentiation. Therefore, calreticulin acts as a significant modulator of the regulation of gene transcription by nuclear hormone receptors.