



RayBiotech, Inc.

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Certificate of Analysis and Data Sheet

Recombinant Human Osteoprotegerin, Fc Chimera

Catalog No.
228-11174

Source
Pichia Pastoris.

Synonyms

TNFRSF11B, OPG, OCIF, Osteoclastogenesis inhibitory factor, TR1, MGC29565.

Introduction

Osteoprotegerin acts as decoy receptor for rankl and thereby neutralizes its function in osteoclastogenesis. OPG inhibits the activation of osteoclasts and promotes osteoclast apoptosis in vitro. Bone homeostasis seems to depend on the local rankl/opg ratio. Osteoprotegerin may also play a role in preventing arterial calcification. May act as decoy receptor for trail and protect against apoptosis. Trail binding blocks the inhibition of osteoclastogenesis.

Description

Recombinant OPG produced in yeast contains 412 amino acid residues, including 180 residues from mature OPG (a.a 22-201) and 232 residues from the Fc protein of human IgG1, and has a calculated molecular mass of 46.5 kDa. As a result of glycosylation, the recombinant Osteoprotegrin migrates as a 49 kDa protein in SDS-PAGE under reducing conditions.

The OPG is purified by proprietary chromatographic techniques.

Physical Appearance

Sterile Filtered White lyophilized (freeze-dried) powder.

Formulation

OPG was lyophilized from a 0.2µm filtered concentrated (0.5mg/ml) solution in PBS, pH= 7.4.

Purity

Greater than 90.0% as determined by:

- (a) Analysis by RP-HPLC.
- (b) Analysis by SDS-PAGE.

Solubility

It is recommended to reconstitute the lyophilized Osteoprotegerin in sterile 18MΩ-cm H₂O not less than 100µg/ml, which can then be further diluted to other aqueous solutions.

**The products are furnished for LABORATORY RESEARCH USE ONLY.
Not for diagnostic or therapeutic use.**



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Amino Acid Sequence

AA Sequence: OPG 22-201:

ETFPPKYLHYDEETSHQLLCDKCPPGTYLKQHCTAKWKTVCAPCPDHYY
TDSWHTSDECLYCSPVCKELQYVKQECNRTHNRVCECKEGRYLEIEFCL
KHRSCPPGFGVVQAGTPERN TVCKRCPDGFFSNETSSKAPCRKHTNCS
VFGLLLTQKGNATHDNICSGNSESTQKCGIDVTL.

Fc232:

EPKSSDKTHTCPPCPAPEFEGAPSVFLFPPKPKDTLMISRTPEVTCVVVDV
SHEDPEVKFKNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLN
GKEYKCKVSNKALPTPIEKTISKAKGQREPQVYTLPPSRDELTKNQVSLTC
LVKGFYPSDIAVEWESNGQPENNYKTTTPVLDSDGSFFLYSKLTVDKSRW
QQGNVFSCSVMEALHNHYTQKSLSLSPGK.

Biological Activity

Determined by its ability to neutralize the stimulation of U937 cells treated with 10ng/ml of soluble RANKL (sRANKL) corresponding to a Specific Activity of 100,000IU/mg.

Stability

Lyophilized Osteoprotegerin although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution OCIF should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).

Please prevent freeze-thaw cycles.

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