

Product datasheet

Arginine-specific protease Rgp from *Porphyromonas gingivalis* #Cat no: 001

Product Name	Arginine-specific protease Rgp from <i>Porphyromonas gingivalis</i>
Synonyms	RGP2, Gingipain R2, Arg-gingipain B
Description	RgpB belongs to a group of cysteine endoproteases, the gingipains, that are unique to the periodontal pathogen <i>Porphyromonas gingivalis</i> . There are three members to the gingipain family: RgpA and RgpB hydrolyse Arg-Xaa and which Kgp cleaves Lys-Xaa peptide bonds. The cysteine proteinases of the gingipain family are responsible for 85% of the general proteolytic activity generated by this bacterium. The gingipains are potent virulence factors which are able to degrade a broad range of host proteins including extracellular matrix, plasma and immunological proteins. The gingipains are not only responsible for degradation of host proteins, but also possess the potential for the activation of some of them. RgpB have been shown to activate prothrombin to thrombin; prekallikrein - leading to the formation of bradykinin; PAR-1,-2 and -4 receptors located on various cell types including platelets, neutrophils and epithelial cells - leading to platelets aggregation, neutrophils activation, release of pro-inflammatory cytokies.
Databanks	MEROPS classification: clan CD, family C25, peptidase C25.001 / IUBMB: EC 3.4.22.37 (BRENDA) / UniProt: P95493 / GeneBank locus name: PG_0506 / PDB: 1CVR
Reference	Veillard F, Potempa B, Guo Y, Ksiazek M, Sztukowska MN, Houston JA, Koneru L, Nguyen KA, Potempa J. (2015) Purification and characterisation of recombinant His-tagged RgpB gingipain from <i>Porphyromonas gingivalis</i> . <i>Biol. Chem.</i> 396 :377-384.

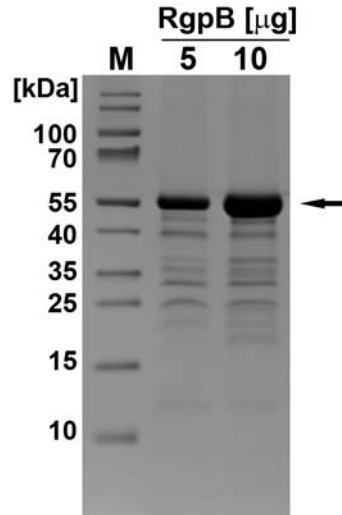
Technical information

Source	Growth medium of genetically modified <i>P. gingivalis</i> W83 carrying the <i>rgpB</i> gene with an insertion of the hexahistidine coding sequence in the front of the sequence encoding the C-terminal domain.
Purification method	Aceton precipitation, DE-52 cellulose ion-exchange chromatography, Ni-Sepharose affinity chromatography
Molecular weight	~ 48.5 kDa

Amount 50 µg or 100 µg

Purity batch specific (≥80% estimated by SDS-PAGE)

Typical purity of RgpB



SDS-PAGE analysis of RgpB (10, 5 µg of protein) stained with Coomassie Blue. M - protein marker. RgpB samples were treated with 5 mM TLCK and double boiled before electrophoretic analysis to avoid protein activation and autodegradation.

Formulation 20 mM Bis-Tris, 150 mM, NaCl 0.02% NaN₃, pH 6.5

Shipping Dry ice

Storage - 80°C. Avoid freeze/thaw cycles by aliquoting protein

Product use All Perio3 Ltd. products are for use only by qualified professionals. All products are for laboratory use in research animals and for in vitro testing. No products are to be used as food or drugs or whatever on or in humans.