

## Gingipain B (RgpB) Monoclonal Antibody

### ORDERING INFORMATION

Catalog No.	Clone No.	MAb Subtype	Size
13925	18E6.F7	IgG1	100ug

**Format:** Protein G-purified antibody in PBS, pH 7.4.

### BACKGROUND

Arginine-gingipain B (RgpB) is a cysteine protease produced exclusively by *Porphyromonas gingivalis*, and it plays a central role in the pathogenicity of *P. gingivalis* in periodontal disease. Over the last several years, a possible association between Alzheimer disease (AD) and chronic periodontitis has been suggested based on detection of *P. gingivalis* infiltration in autopsy specimens from the brains of people with AD in association with neurons, tau tangles, and beta-amyloid as well as in cerebrospinal fluid of individuals diagnosed with AD.

Oral administration of a gingipain inhibitor to mice with established brain infection by *P. gingivalis* decreased the amount of *P. gingivalis* DNA in brain as well as the levels of beta-amyloid and tumor necrosis factor- $\alpha$ .

Taken together, the data suggest that gingipain inhibitors might be an effective treatment of AD. Clinical trials of gingipain inhibitors are currently underway.

### SPECIFICATION SUMMARY

**Antigen:** Arginine-gingipain B (RgpB) from *Porphyromonas gingivalis*.

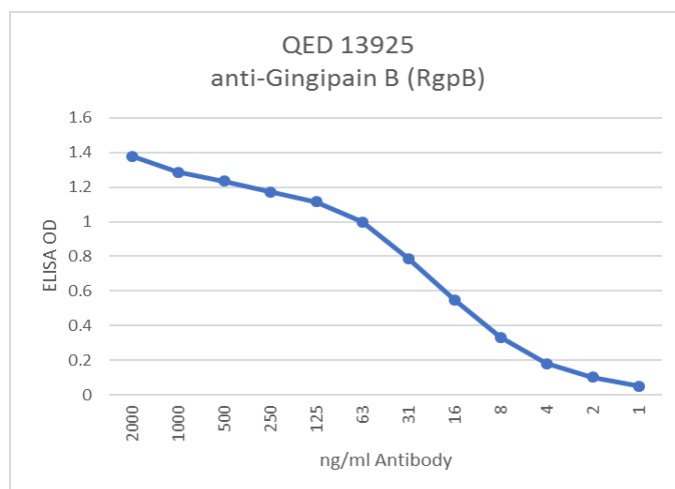
**Host Species:** Mouse

**Accession No.:** Q51844

**Specificity:** This antibody recognizes a unique epitope within the immunoglobulin (Ig)-like domain of arginine-gingipain (RgpB).

### APPLICATIONS

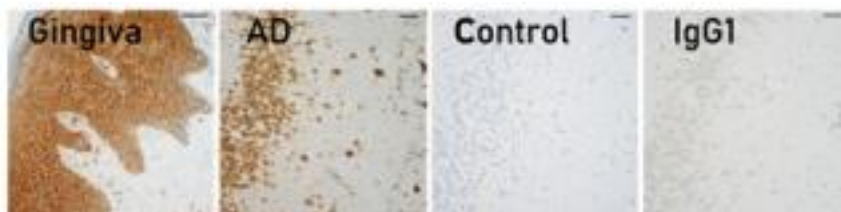
**ELISA:** RgpB coated on the solid phase at 4ug/ml. Antibody binding detected with HRP anti-mouse IgG Fc (1:2,000) and ABTS substrate.



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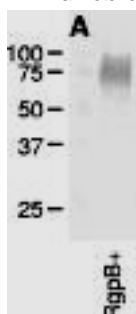
### APPLICATIONS (continued)

#### Immunohistochemistry:



Paraffin-embedded formalin-fixed AD hippocampus and gingival tissue from a patient with periodontal disease stained with #13925 and compared to non-AD control tissue and mouse IgG1 control (see Dominy et al. *Science Advances* 5 (1): eaau3333).

*Immunoblotting:* A band of ~70-90kDa is detected.



Detection of RgpB in *P. gingivalis* wild-type strain W83 whole cells (see Nguyen K-A et al. *J Bacteriol* 189: 833-843).

### STORAGE AND STABILITY

This antibody is stable for at least one (1) year at -20°C. Store in appropriate aliquots to avoid multiple freeze-thaw cycles.

### PRODUCT REFERENCES

Dominy S et al. 2019. *Porphyromonas gingivalis* in Alzheimer's disease brains: Evidence for disease causation and treatment with small-molecule inhibitors. *Science Advances* 5 (1): eaau3333.

Nguyen K-A et al. 2007. Does the importance of the C-terminal residues in the maturation of RgpB from *Porphyromonas gingivalis* reveal a novel mechanism for protein export in a subgroup of Gram-negative bacteria? *J Bacteriol* 189: 833-843.

*For in vitro investigational use only. Not intended for use in therapeutic or diagnostic procedures.*