3050 Spruce Street, St. Louis, MO 63103 USA
Tel: (800) 521-8956 (314) 771-5765 Fax: (800) 325-5052 (314) 771-5757
email: techservice@sial.com sigma-aldrich.com

Product Information

Anti-*Porphyromonas gingivalis* antibody
produced in rabbit, IgG fraction of antiserum

Product Number **SAB4200832**

Product Description

Anti-*Porphyromonas gingivalis* antibody is developed in rabbits using UV-killed *P. gingivalis* bacteria (ATCC 33277). Whole antiserum is purified using protein A immobilized on agarose to provide the IgG fraction of antiserum.

Anti-*Porphyromonas gingivalis* antibody recognizes *P*. *gingivalis* whole extract and *P*. *gingivalis* lipopolysaccharides (LPS). The antibody has no cross-reactivity with *P. mirabilis* or *E. coli*. The antibody may be used in various immunochemical techniques including immunoblotting and ELISA. Detection of the *P*. *gingivalis* bands by immunoblotting is specifically inhibited by the immunogen.

Porphyromonas gingivalis is a nonmotile, Gram-negative, rod-shaped, anaerobic pathogenic bacterium, belonging to the *Porphyromonadaceae* family, phylum *Bacteroidetes* class.[1] *P. gingivalis* is involved in a number of pathogenic mechanisms including tissue colonization and destruction, as well as host defense activation.[1-5]

This bacterium is known for the ability to colonize in the oral cavity, which is considered a major public health issue. It can also be found in lung, liver, or splenic abscesses, and the upper gastrointestinal tract. *P. gingivalis* is related to atherosclerotic plaque disease, cardiovascular diseases, adverse pregnancy outcomes, rheumatoid arthritis (RA), meningitis or brain abscesses, and Alzheimer's disease.[2-8]

The ability of *P. gingivalis* to aggregate in biofilms is considered a significant health risk by elevated resistance to host defense mechanisms and decreased susceptibility to conventional antimicrobials agents.[9] *P. gingivalis* have several potential secreted and membranal virulence factors such as Gingipains proteolytic complex (Rgp and Kgp), which degrades various host proteins, Fimbriae (FimA and Mfa1) responsible for attachment of bacterial cells to host cell surfaces, and Haemagglutinins (HagA) involved in adhesion and invasion of host cells.[1-10]

The host response to *P. gingivalis* infection may involve immunoglobulin degradation, inactivation of cytokines and their receptors, platelet aggregation, attenuation of neutrophil antibacterial activities, and increasing vascular permeability, as well as, prevention of blood clotting.[2]

In recent years, there was an extensive study on the influence of *P. gingivalis* infections and *P. gingivalis* LPS in the development and cure of RA. The production of citrullinated peptides by *P. gingivalis* virulence factors, arginine gingipains (RgpA and RgpB), followed by the peptidyl arginine deiminase enzyme (P.PAD) preferentially citrullinating C-terminal arginine resulting in host autoimmune response and generation of anti-citrullinated antibodies (ACPAs). Furthermore, in animal models *P. gingivalis* infection triggered experimental autoimmune arthritis.[8,11-12]

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2–8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working dilution of 1:50,000-1:100,000 is recommended using dead *Porphyromonas gingivalis* bacteria.

Indirect ELISA: a working dilution of 1:20,000-1:40,000 is recommended using *Porphyromonas gingivalis* LPS for coating.

Note: In order to obtain best results in different techniques and preparations, it is recommended to determine optimal working concentration by titration.

References

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