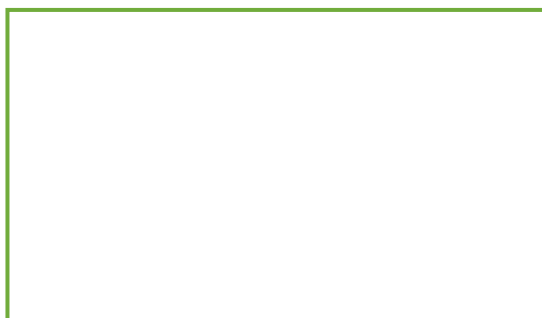




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Rabbit Anti *Streptococcus mutans* ANT0082

200µl

Description

Streptococcus mutans is a Gram-positive bacterium that lives in the mouth. The bacterium metabolizes different kinds of carbohydrates, creating an acidic environment in the mouth as a result of this process. This acidic environment in the mouth is what causes the tooth decay. *S. mutans* is considered to be the most cariogenic of all of the oral Streptococci [1].

S. mutans is very important to study, not only because virtually everyone in the world carries it, but also because it has various symptoms that affect our daily lives. As the bacteria develop in the mouth, they cause tooth destruction, impaired speech, difficulty chewing, multiple infections, psychological problems such as low self-esteem, poor social interactions, concentration problems, etc. Though not fatal, tooth decay is one of the most common infectious diseases in humans. Also, cavities caused by the bacteria are the reason for half of all dental visits in the U.S. [2].

The bacteria are most concentrated in the crevices, pits, and fissures that are a normal part of the teeth and surrounding structures. Adults may have a high concentration of *S. mutans* in their mouths. In contrast, infants and children have a smaller concentration, but they are more vulnerable to the bacteria [3]. One of the important virulence properties of these organisms is their ability to form biofilms known as dental plaque on tooth surfaces. Biofilms are sessile bacterial communities adherent to a surface, and their formation occurs in response to a variety of environmental cues. *S. mutans* undergoes a developmental program in response to environmental signals that leads to the expression of new phenotypes that distinguish these sessile cells from planktonic cells (4). Microbiological studies have been conducted in particular in patients undergoing treatment for cancer. Radiotherapy-caused hyposalivation may affect the oral microbiota. Variations in quantity, complexity, and quality of the oral microbiota also occur during chemotherapy, leading to a major imbalance of the ecosystem (5).

Product type

Primary Polyclonal antibody

Immunogen

S. mutans ATCC 25175 10¹⁰ cells inactivated in glutaraldehyde 2.5%v/v

Source

Rabbit

Reacts with

Streptococcus mutans

Specificity

Streptococcus mutans; not cross-react against *S.oralis* ATCC 9811; *P.gingivalis*; *F.nucleatum* ATCC 25586 [7].

Tested applications

ELISA; FACS; Confocal laser scanning microscopy;

Recommended dilutions

Recommended starting dilutions can vary lot-to-lot. Consult the product information label in the package for lot specific values.

Note: When using any primary antibody or fluorescence-labelled secondary antibody for the first time, titrate out the antibody to determine which dilution allows the strongest specific signal with the lowest background for your sample [7].

Purity

Polyclonal immunoglobulins purified by protein A affinity chromatography.

Form

Liquid. Supplied in 100mM sodium citrate, 50mM Tris and 0.05% v/v glycerol. Neutral pH.

Storage

Shipped at +4°C. When stored at +4°C, the antibody is stable for 18 months. For extended storage, the solution may be frozen at -20°C in working aliquots.

Note: Avoid repeated freezing and thawing cycles.

Reference

- [1] Dennis Kunkel Microscopy. http://education.denniskunkel.com/catalog/product_info.php?products_id=957
- [2] National Center for Biotechnology Information. <http://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?mode=Info&id=1309&lvl=3&lin=f&keep=1&srchmode=1&unlock>
- [3] Vincent A. Fischetti, Richard P. Novick, Joseph J. Ferretti, Daniel A. Portnoy, and Julian I. Rood. "Gram-Positive Pathogens." 2nd ed. Washington: American Society for Microbiology press, 2006
- [4] Shigeyuki Hamada, Suzanne M. Michalek, et al. "Molecular Microbiology and Immunobiology of Streptococcus mutans." New York: Elsevier Science, 1986
- [5] Sixou JL, De Medeiros-Batista O, Gandemer V, Bonnaure-Mallet M. The effect of chemotherapy on the supragingival plaque of pediatric cancer patients. *Oral Oncol* 1998; 34: 476–83.
- [6] Almståhl A, Wikström M, Fagerberg-Mohlin B. Microflora in oral ecosystems in subjects with radiation-induced hyposalivation. *Oral Dis* 2008; 14: 541–9.
- [7] **Manti A, Ciandrini E, Campana R, Dominici S, Ciacci C, Federici S, Sisti D, Rocchi MB, Papa S, Baffone W.**
A dual-species microbial model for studying the dynamics between oral streptococci and periodontal pathogens during biofilm development on titanium surfaces by flow cytometry.
Res Microbiol. 2016 Jun;167(5):393-402. doi: 10.1016/j.resmic.2016.03.004. Epub 2016 Mar 28