**International Journal of Engineering Research and Development**
e-ISSN: 2278-067X, p-ISSN: 2278-800X, www.ijerd.com
Volume 14, Issue 1 (January 2018), PP.75-78

# Site Attachment Inhibition Therapeutics: A New Mode of Action Pathway in Antimicrobial Therapy

**[*1]Simon Raymond**
*[*1]Consultant, Alumnus, Melbourne University, Parkville, VIC, 3010, Australia*

## I. INTRODUCTION

**Executive Delineation**

Concern with respect to antimicrobial resistance and the associated health threat has gained increasing attention and there has been difficulty in gaining progress globally. Given the lack of success by the two pathways established to date which have focused on: 1) "replication of infective agent" and, 2) "immune system enhancement," the current researcher has conceptualized and developed the new, or third, mode of action pathway represented by *"site attachment inhibition (or, negation of cellular attachment by infective agents)."* The current author anticipates site attachment inhibition therapeutics to include: (A) drug (medication) based therapies in treatment of established infections; (B) new generation immunization methods (as preventative treatment) utilizing stem cell based treatment (including prenatal and earlier, spanning back to oogenesis and spermatogenesis) termed stc based immunization in previous publications; and, (C) other forms including waveform (E.g. electromagnetic radiation) based treatment. With respect to viruses, support for the likely success of the new mode of action pathway: A) the known CCR5-Δ32 mutation achieves resistance (immunity) against HIV through negation of cellular attachment (there are also other examples including that with inherited resistance against Malaria); B) other areas of medicine use analogous receptor antagonism (E.g. beta blocker therapy); C) advanced IT uses analogous site attachment inhibition to remove viruses. With respect to bacteria, support for the likely success of the new mode of action pathway: A) advanced IT uses analogous site attachment inhibition to remove IT infections; B) glycoproteins (or, glycoprotein receptors) represent key receptors/proteins for attachment and, analogous to glycoprotein IIb/IIIa medications which inhibit (negate) platelet aggregation and thrombus formation, it seems reasonable to pursue antagonism or blockade of other glycoprotein receptors in order to prevent bacterial attachment to human cells (note: this is also relevant to viral infections); C) the human immune system perhaps coats infective agents in an attempt to negate cellular attachment, therefore this mode of action represented by site attachment inhibition makes scientific sense. Attention must be directed toward correctly identifying the target receptors and appreciating the difference between association and causation. Looking at mutations noticed in the human population and connecting this to the innate resistance they possess to certain infections is not enough as this may simply represent association as opposed to causation. Even the known CCR5-Δ32 mutation has not been completely confirmed as direct/causative of the inhibition of attachment observed in research analyses. With regards to association and causation type issues, future publications are planned to discuss the use of CRISPR, including CRISPR-Cas9, and related technologies in dealing with such issues. In brief, using technologies including those above would allow comparison between cells in which entry of the pathogen is occurring to those in which entry of the pathogen is not occurring (or, not able to) and through analysis of the genetics of the human cellular biology used by the pathogen to gain cellular attachment (or, transfer and entry), the genes to be targeted in mutagenesis and knockout can be analysed. There is a good discussion on prenatal and germline stem cell therapy in US National Library accessible by way of the link below. The Library Resource is not up to date with the above and does not discuss prenatal or germline stem cell therapy in terms of developing new generation immunization programs but instead provides a general, or broad, discussion regarding the topic of prenatal and germline stem cell therapy.

Link: https://ghr.nlm.nih.gov/primer/genomicresearch/genomeediting

The current author has been invited by a Melbourne University professor (who has special interests in childhood vaccine and immunology) linked to world health type organizations to consider acting as a mentor with regards to students completing graduate level studies within the university.

Respect for biology in addition to consideration by ethics committee and community members has been detailed in previous publications with regards to the use of antibiotics. As previously detailed, the current researcher may explore in future the possibility of attacking the sensory abilities of infective agents and whether this would hinder their ability to strategically evade the immune system through drift/shift measures,

morphogenetic alterations and other. That being said, the current researcher anticipates that it would require more than simply attacking basics such as ion gated channel communications. In extension of the above, it should be noted that there are also serious ethical considerations with respect to the topic of attacking infective agents (for instance, in their ability to achieve antimicrobial resistance) in a manner that directs attention toward attacking their sensory abilities given such involves questions of consciousness and the author is not yet of the opinion that attack from that avenue is appropriate. This is discussed further below. The reasons for why site attachment inhibition is different will be detailed further in future publications.

Supporting that awareness of infective agents should be taken seriously:

1. There is consideration by respected universities regarding awareness of computers and the need to consider whether computers should be provided similar rights to that of human rights.
2. There is merger occurring with the IT industry. Examples include three-dimensional printing of biology.
3. There is support for the opinion that infective agents may contain awareness and this is detailed in previous publications. It is supported further in this publication by the ability of infective agents to sense surroundings in the contexts of discriminating between self and foreign.

**Future Research**

A. With regards to new generation immunization programs, schedules to be developed would likely benefit from taking into consideration of the following.

1. **Common infections to include taking into account the epidemiological characteristics of the given population.**

   **Also,**

2. **Additional vaccination that may be required for children being born with conditions predisposing them to particular infective agents.**

   *Hypothetical Examples:*

   - Should persons with hereditary immune dysfunction disorders receive additional immunizations?

   - Should persons with cystic fibrosis receive additional protection?

     -For instance: *Haemophilus influenza*; *P. aeruginosa*?

     -Further research directed toward additional immunization, given likely hospital attendance, against clostridium difficile.

     Note there is currently a trial for a vaccine, that is not stc based immunization, against clostridium difficile. Clover Trial; https://clinicaltrials.gov/ct2/show/NCT03090191.

Interestingly, an article by the current author with regards to Clostridium Difficile:

Raymond S (2017) Site Attachment Inhibition: Case Analysis Res HIV AIDS J SF 1: 1.

B. The IP rules with regards to site attachment inhibition therapeutics are planned for discussion in future publications. In brief, the use of the term Alumnus has been utilized on many publications. This indicates that the author has not stated an official position with a university whilst completing the research. Therefore, the author intends to privately seek IP rights through patent or other formats. This is not connected to a university. The issue then, if moving ahead, is whether generics can be constructed and after how many years following commercial release.

C. The current publication extended on previous publications by way of detailing solutions with regards to dealing with association and causation type issues. Future publications are planned to delineate information with regards to solutions regarding development of antimicrobial resistance.

D. Future research by the current author will likely include delineation of the application of quantum physics to medicine and surgery, starting with neurology and immunology, and in what circumstances this is appropriate.The merger between the above fields including immunology, neurology, IT, and advanced physics (quantum physics) that appears likely to commence. Three-dimensional printing, including that of biological products, is already taking place. Further exploration and delineation of the relationship between memes, mind viruses, IT viruses and biological viruses.

E. Quantum physics is the most rigorous and robust of the sciences yet to date there is minimal application to the medical and surgical professions. This should occur based on the improvement potential to the profession alone, however it can also be said that given infective agents including bacteria have now demonstrated the ability to perform voltage gated ion channel firing (communication) the field of neurology needs to update past such basic science and improve to the level of advanced science, represented by quantum physics as a starting point. Examples as a commencing point may include: In neurology (and, ophthalmology) the updating of basic principles, for instance: (1) an understanding that the central beam theory may perhaps be better explained by way of scientific principles, in quantum physics, revolving around light acting in both wave and particle forms and, by application of the pinhole aperture, light may arguably as result hit the retina more predominantly in particle form, and subsequently in a more concentrated manner, thereby increasing visual acuity; (2) monocular abilities to judge depth (depth perception) may perhaps be better explained through interaction of diffraction wave patterns with accompanying neurological calculation of time and distance relationships based on such analyses, as opposed to historical explanations such as texture gradient, interposition, relative size etc. Interestingly, partial coherence interferometry (used in ophthalmology) utilizes such principles; (3) Note that sound also travels as waves which interfere in a manner of constructive and destructive interference; (4) The analysis of chronology (for instance, with inflammation, trauma, and infection) as to which occurred first, taking into account relevant principles.

Note: Microorganisms may also be communicating utilizing methods describable by quantum physics.

**Summary and Conclusion:**

This publication discusses the new, or third, branch in antimicrobial therapeutics*"site attachment inhibition"* and also introduces the application of quantum physics to medicine, surgery and related fields. These two topics have been conceptualized and developed by the current researcher.

**Site attachment inhibition therapeutics is planned to consist of both:**

**1.** Treatment of established infections (E.g. medication based);
**2.** New generation immunization programs (preventative treatment) utilizing stem cell based treatment (including prenatal and earlier, spanning back to oogenesis and spermatogenesis).
Termed stc based immunization in previous publications.

The medical profession may need to head toward the future. It may be worth considering whether such procedures should become routine as with procedure including amniocentesis.

New content introduced in this publication includes that with regards to CRISPR, CRISPR-Cas9. Broad discussion of the concept mentioned includes that in US National Library:

https://ghr.nlm.nih.gov/primer/genomicresearch/genomeediting

*Intentions to seek patent rights have been discussed in previous publications including:

*Raymond S (2017) Site Attachment Inhibition Therapeutics: A Core Summary Journal of AIDS & Clinical Research 8:2 10.4172/2155-6113.1000664.

The concepts of this publication have commenced presentation in conference and congress proceedings internationally. Future presentations are taking place internationally including: Melbourne; Boston; London; Madrid; Amsterdam.

**References and Citations:**

[1]. Raymond S (2016) Development of New Strategic Pathways for Antiviral Therapy J Clin Cell Immunol 7: 5.

[2]. Raymond S (2016) Consciousness and the Development of New Strategic Pathways for Antiviral Therapy A Focused Analysis on HIV International Journal of Sciences Basic and Applied Research (IJSBAR) 29: 146-154.

[3]. Raymond S (2016) The Development of New Antimicrobial Pathways Combatting the Threat of Antimicrobial Resistance International Journal of Science Basic and Applied Research (IJSBAR) 30: 22-28.

[4]. Raymond S (2016) Combatting the global threat of antimicrobial resistance and antiviral deficiencies Imperial Journal of Interdisciplinary Research (IJIR) 3: 676-680.

[5]. Raymond S (2016) The role of infectious disease and inflammation in psychiatric illness Imperial Journal of Interdisciplinary Research (IJIR) 3: 510-513.

[6]. Raymond S (2017) Site Attachment Inhibition Therapeutics: A Core Summary Journal of AIDS & Clinical Research 8:2 10.4172/2155-6113.1000664.

[7]. Raymond S (2017) Annual Conference on Microbial Pathogenesis, Infectious Disease, Antimicrobials and Drug Resistance Aug 23-24, Toronto, Canada.

**General Reference Material:**

[8]. https://ghr.nlm.nih.gov/primer/genomicresearch/genomeediting

[9]. http://www.dailymail.co.uk/sciencetech/article-3617588/Oxford-professor-says-computers-develop-consciousness-need-human-rights.html

[10]. http://www.telegraph.co.uk/science/2016/05/29/computers-could-develop-consciousness-and-may-need-human-rights/

*1Simon Raymond. “Site Attachment Inhibition Therapeutics: A New Mode of Action Pathway in Antimicrobial Therapy.” *1Consultant, Alumnus, Melbourne University, Parkville, VIC, 3010, Australia, vol. 14, no. 01, 2018, pp. 75–78.