

Supplementary Materials: Therapeutic Prospection of Animal Venoms-Derived Antimicrobial Peptides against Infections by Multidrug-Resistant *Acinetobacter baumannii*: A Systematic Review of Pre-Clinical Studies

William Gustavo Lima and Maria Elena de Lima

Details of the search strategy—24 December 2022

Search in Pubmed

("antimicrobial peptides"[MeSH Terms] OR ("antimicrobial peptides"[Text Word] OR "antimicrobial peptide*"[Text Word])) AND ("toxins, biological"[MeSH Terms] OR ("toxins biological"[Text Word] OR "biological toxins"[Text Word]) OR "Venoms"[MeSH Terms] OR ("Venoms"[Text Word] OR "Venom"[Text Word])) AND ("acinetobacter baumannii"[MeSH Terms] OR ("acinetobacter baumannii"[MeSH Terms] OR ("acinetobacter"[All Fields] AND "baumannii"[All Fields]) OR "acinetobacter baumannii"[All Fields] OR ("acinetobacter calcoaceticus"[MeSH Terms] OR "acinetobacter baumannii"[MeSH Terms])))

Search in Scopus

(TITLE-ABS-KEY ("antimicrobial peptides" OR "antimicrobial peptide*") OR INDEXTERMS ("antimicrobial peptides" OR "antimicrobial peptide*")) AND (TITLE-ABS-KEY ("toxins, biological" OR "toxins biological" OR "biological toxins" OR "Venoms" OR "Venom") OR INDEXTERMS ("toxins, biological"))

OR "toxins biological" OR "biological toxins" OR "Venoms" OR "Venom"))
AND (TITLE-ABS-KEY ("acinetobacter baumannii" OR "acinetobacter
calcoaceticus" OR "acinetobacter") OR INDEXTERMS ("acinetobacter
baumannii" OR "acinetobacter calcoaceticus" OR "acinetobacter"))

Web of Science

ALL=((“antimicrobial peptides” OR “antimicrobial peptide*”) AND (“toxins,
biological” OR “toxins biological” OR “biological toxins” OR “Venoms” OR
“Venom”) AND (“acinetobacter baumannii” OR “acinetobacter calcoaceticus”
OR “acinetobacter”))

SciencerDirect

(“antimicrobial peptides”) AND (“toxins, biological” OR “Venoms”) AND
 (“acinetobacter baumannii”)

Biblioteca Virtual em Saúde:

(“antimicrobial peptides” OR “Péptidos Antimicrobianos” OR “Peptídeos
Antimicrobianos”) AND (“toxins, biological” OR “toxinas biológicas” OR
“venoms” OR “peçonhas” OR “ponzoñas”) AND (“acinetobacter baumannii”)

in Título, Resumo, Assunto

Reference list of included articles

1. Askari, P.; Namaei, M. H.; Ghazvini, K.; Hosseini, M. *In vitro* and *in vivo* toxicity and antibacterial efficacy of melittin against clinical extensively drug-resistant bacteria. *BMC Pharmacol Toxicol.* **2021**, *22*, 42.
2. López-Rojas, R.; Docobo-Pérez, F.; Pachón-Ibáñez, M.E.; de la Torre, B.G.; Fernández-Reyes, M.; March, C.; Bengoechea, J.A.; Andreu, D.; Rivas, L.; Pachón, J. Efficacy of cecropin A-melittin peptides on a sepsis model of infection by pan-resistant *Acinetobacter baumannii*. *Eur J Clin Microbiol Infect Dis.* **2011**, *30*, 1391-1398.
3. Rishi, P.; Vashist, T.; Sharma, A.; Kaur, A.; Kaur, A.; Kaur, N.; Kaur, I.P.; Tewari, R. Efficacy of designer K11 antimicrobial peptide (a hybrid of melittin, cecropin A1 and magainin 2) against *Acinetobacter baumannii*-infected wounds. *Pathog Dis.* **2018**, *76*, 30184071.
4. Park, H.J.; Kang, H.K.; Park, E.; Kim, M.K.; Park, Y. Bactericidal activities and action mechanism of the novel antimicrobial peptide Hylin a1 and its analog peptides against *Acinetobacter baumannii* infection. *Eur J Pharm Sci.* **2022**, *175*, 106205.
5. Pashaei, F.; Bevalian, P.; Akbari, R.; Bagheri, K.P. Single dose eradication of extensively drug resistant *Acinetobacter* spp. In a mouse model of burn infection by melittin antimicrobial peptide. *Microb Pathog.* **2019**, *127*, 60-69.
6. Hassan, A.; Ikram, A.; Raza, A.; Saeed, S.; Paracha, R.Z.; Younas, Z.; Khadim, M.T. Therapeutic Potential of Novel Mastoparan-Chitosan Nanoconstructs Against Clinical MDR *Acinetobacter baumannii*: In silico, *in vitro* and *in vivo* Studies. *Int J Nanomedicine.* **2021**, *16*, 3755-3773.
7. Brito, J.C.M.; Lima, W.G.; Resende, J.M.; de Assis, D.C.S.; Boff, D.; Cardoso, V.N.; Amaral, F.A.; Souza-Fagundes, E.M.; Fernandes, S.O.A.; de Lima, M.E. Pegylated LyeTx I-b peptide

is effective against carbapenem-resistant *Acinetobacter baumannii* in an in vivo model of pneumonia and shows reduced toxicity. *Int J Pharm.* **2021**, *609*, 121156.

8. Lima, W.G.; Brito, J.C.M.; de Lima, M.E.; Pizarro, A.C.S.T.; Vianna, M.A.M.M.; de Paiva, M.C.; de Assis, D.C.S.; Cardoso, V.N.; Fernandes, S.O.A. A short synthetic peptide, based on LyeTx I from *Lycosa erythrogynatha* venom, shows potential to treat pneumonia caused by carbapenem-resistant *Acinetobacter baumannii* without detectable resistance. *J Antibiot (Tokyo)*. **2021**, *74*, 425-434