

# Effects of storage temperature and water activity on the survival of bifidobacteria in powder form

[FUMIAKI ABE](#)

[HIROFUMI MIYAUCHI](#)

[AYAKO UCHIJIMA](#)

[TOMOKO YAESHIMA](#)

[KEIJI IWATSUKI](#)

First published: 21 May 2009

<https://doi.org/10.1111/j.1471-0307.2009.00464.x>

[Read the full text](#)



PDF

## Abstract

*Effects of water activity and storage temperature on survival of bifidobacteria in powder form were investigated and kinetic analyses were performed to reveal characteristics of the stability. A significant positive correlation was observed between water activity and natural logarithm of the inactivation rate constant of bifidobacteria powder, indicating that higher water activity induced lower stability of bifidobacteria in powder form. Also, higher temperature condition induced lower survival rate, which was supported by that the stability was followed the Arrhenius theory. These findings constructed a prediction model for bifidobacteria survival in powder form.*