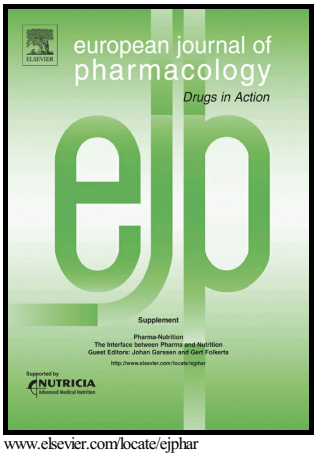
Integrin, alpha9 subunit blockade suppresses collagen-induced arthritis with minimal systemic immunomodulation

Shingo Sugahara, Kaori Hanaoka, Nobuchika Yamamoto



www.elsevier.com/locate/ejphar

PII: S0014-2999(18)30354-6
DOI: https://doi.org/10.1016/j.ejphar.2018.06.021
Reference: EJP71851

To appear in: *European Journal of Pharmacology*

Received date: 14 January 2018
Revised date: 17 June 2018
Accepted date: 18 June 2018

Cite this article as: Shingo Sugahara, Kaori Hanaoka and Nobuchika Yamamoto, Integrin, alpha9 subunit blockade suppresses collagen-induced arthritis with minimal systemic immunomodulation, *European Journal of Pharmacology,* https://doi.org/10.1016/j.ejphar.2018.06.021

Integrin, alpha9 subunit blockade suppresses collagen-induced arthritis with minimal systemic immunomodulation

Shingo Sugahara*, Kaori Hanaoka, Nobuchika Yamamoto

Drug Discovery Research, Astellas Pharma Inc., 21 Miyukigaoka, Tsukuba, Ibaraki, 305-8585, Japan

*Corresponding author. Shingo Sugahara. Tel.: +81-29-829-6252; fax: +81-29-852-2955.

shingo.sugahara@astellas.com

ABSTRACT

Integrin, alpha9 subunit (hereinafter, alpha9) has been identified as a novel putative therapeutic target for rheumatoid arthritis (RA). Support for this target comes from the observations that alpha9 is overexpressed both in the joints of RA patients and in animal models of arthritis. In the experimental models, the increase in alpha9 expression precedes the onset of arthritic symptoms. The current study presents data on the pharmacological profile of an anti-alpha9 antibody in a collagen-induced arthritis (CIA) mouse model. Administration of an alpha9-blocking antibody in CIA mice suppressed the development of arthritis and significantly decreased plasma level of activated fibroblast-like synoviocyte (FLS)-derived biomarkers without reducing the formation of