

Humanized anti-RAGE antibody

Published date: Aug. 31, 2017

Technology description

Summary

This technology is a humanized anti-RAGE antibody for potential diagnostic and therapeutic applications in chronic diseases involving advanced glycation end products.

Unmet Need: Anti-RAGE antibody suitable for diagnostic and therapeutic applications

Elevated levels of the receptor for advanced glycation end products (RAGE) are observed in a number of chronic diseases, including atherosclerosis, ischemia, cancer, Alzheimer's disease and diabetes. As such, antibodies that target RAGE may be useful for both diagnostic and therapeutic purposes, demonstrating the need for a humanized anti-RAGE antibody.

The Technology: A humanized anti-RAGE antibody

This technology describes a humanized anti-RAGE antibody that is suitable for use in human patients. Using computer modeling to predict functional differences between mouse and human anti-RAGE antibodies, the heavy chain (HC) and light chain (LC) variable regions of a mouse anti-RAGE antibody were aligned with human germline antibody variable regions to identify the best frameworks as acceptors for the mouse HC and LC. The humanized sequences were cloned into an antibody expression vector for expression and purification. Affinity determination of the humanized antibody revealed that the mouse anti-RAGE antibody was successfully humanized and retained its binding activity. As such, this technology presents a humanized anti-RAGE antibody that may serve as a component in both diagnostic and therapeutic applications.

Publications

Tekabe Y, Anthony T, Li Q, Ray R, Rai V, Zhang G, Schmidt AM, Johnson LL. "Treatment effect with anti-RAGE F(ab')₂ antibody improves hind limb angiogenesis and blood flow in Type 1 diabetic mice with left femoral artery ligation. Vasc Med. 2015 Jun; 20(3): 212-8.

Johnson LL, Tekabe Y, Kollaros M, Eng G, Bhatia K, Li C, Krueger CG, Shanmuganayagam D, Schmidt AM. "Imaging RAGE expression in atherosclerotic plaques in hyperlipidemic pigs." EJNMMI Res. 2014 Jun; 4: 26.

Application area

Diagnostic tool for detection of elevated RAGE levels in patient samples

Immunotherapy in chronic diseases involving RAGE

Commercial humanized antibody for research purposes

Advantages

Validated antibody with target affinity for human and mouse RAGE

Antigen specificity confirmed by affinity determination

High purity achieved in large scale preparations

Institution

[Columbia University](#)

Inventors

[Lynne Johnson](#)

联系我们



叶先生

电话 : 021-65679356

手机 : 13414935137

邮箱 : yeyingsheng@zf-ym.com