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(54) Title (EN): DNA-CUTTING AGENT

(54) Title (FR): DISPOSITIF POUR DÉCOUPER L'ADN À BASE DE LA PROTÉINE CAS9 À PARTIR DE DEFLUVIIMONAS SP.

(54) Title (RU): СРЕДСТВО РАЗРЕЗАНИЯ ДНК

(57) Abstract:
(EN): The present invention describes a novel bacterial nuclease of a CRISPR-Cas9 system from the bacteria Defluviimonas sp. 20V17, as well as the use of said nuclease for creating strictly specific two-strand cuts in a DNA molecule. The present nuclease possesses unusual properties and can be used as an instrument for introducing changes at strictly specified places in a genomic DNA sequence of single-celled and multi-celled organisms. The invention thus increases the universality of accessible CRISPR-

Cas9 systems, which makes it possible to use Cas9 nuclease from various organisms to cut genomic or plasmid DNA in a large number of specific sites and under various conditions.

(FR): La présente invention concerne une nouvelle nucléase bactérienne CRISPR-Cas9 à base de la bactérie Defluviimonas sp. 20V17, ainsi que son utilisation pour former des ruptures à deux brins strictement spécifiques dans une molécule d'ADN. Cette nucléase possède des propriétés inhbituelles petu peut être utilisée en tant qu'instrument pour apporter des modifications dans des endroits strictement déterminés d'une ADN génomique d'organismes unicellulaires ou multicellulaires. Cela permet d'améliorer l'universalité de systèmes diponibles CRISPR-Cas9, ce qui permet d'utiiser les nucléases Cas9 provenant de différents orgamismes pour découper l'ADN génomique ou plasmidique dans une grande quantité de sites spécifiques et dans des conditions différentes.

(RU): Настоящее изобретение описывает новую бактериальную нуклеазу системы CRISPR-Cas9 из бактерии Defluviimonas sp. 20V17, а также ее применение для образования строго специфичных двунитевых разрывов в молекуле ДНК. Данная нуклеаза обладает необычными свойствами и может быть использована в качестве инструмента для внесения изменений в строго определенных местах в последовательности геномной ДНК одноклеточных или многоклеточных организмов. Таким образом, достигается повышение универсальности доступных систем CRISPR-Cas9, что позволит использовать нуклеазы Cas9 из различных организмов для разрезания геномной или плазмидной ДНК в большем количестве специфических сайтов и при различных условиях.

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