

Development of flagellin-based subunit vaccines against coronaviruses

In connection with the fight against the coronavirus epidemic, we have developed a new type of protein-based vaccine that elicits an innate immune response and an acquired immunity, thus making our body resistant to the attack of the real virus. The idea was to combine two proteins in the vaccine: one is the part of the flagellin protein, the main component of the locomotion organelle of the salmonella bacterium, which had been shown to be a useful carrier or excipient to increase the effectiveness of vaccines. The other component of the fusion protein was the cell surface-binding portion of the "spike" protein responsible for recognizing the target cell on the surface of selected animal coronaviruses. It was proved that by incorporating the receptor-binding domain of the coronavirus, which directed entry into infected cells, inside the flagellin, provided the way for the production of an effective vaccine.

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