

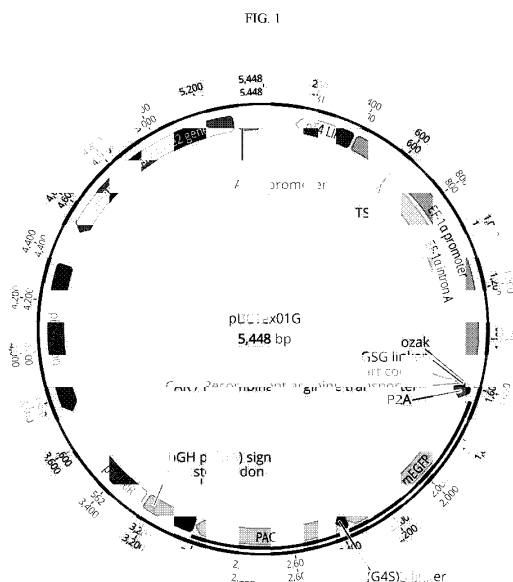


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- (71) **Applicant: SKY PERFECT INTERNATIONAL LIMITED** [CN/CN]; Room 1617, 16th Floor, China Merchants Tower, 168-200 Connaught Road, Central, Hong Kong (CN).
- (72) **Inventor: CHEUNG, Kwok Ming;** c/o Sky Perfect International Limited, Room 1617, 16th Floor, China Merchants Tower, 168-200 Connaught Road, Central, Hong Kong (CN).
- (74) **Agent: BEIJING PAT SF INTELLECTUAL PROPERTY AGENCY CO. LTD:** 1110-11, A. Floor 11, Chengjian

Plaza, 18 Beitaipingzhuang Road, Haidian District, Beijing 100088 (CN).

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- (54) Title:** METHODS AND COMPOSITIONS FOR MODULATING ARGININE LEVELS IN IMMUNE CELLS



(57) Abstract: Provided are genetically modified T-cells and CAR-T cells that have an increased ability to process the essential amino acid arginine, for example, by overexpressing amino acid transporters, particularly arginine transporters. The genetically modified T-cells and CAR-T cells can survive the often hostile tumor microenvironment better because of their increased ability to process arginine. Also provided are the methods and compositions used to augment the amount of arginine available to a T-cell, thus providing a CAR-T cell that can be effective in the treatment of solid tumors by surviving the tumor microenvironment.

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