CLAIMS

1. A T lymphocyte expressing a B cell zone homing receptor not normally expressed by the T lymphocyte, and a chimeric antigen receptor (CAR).

2. The T lymphocyte of claim 1, wherein the B cell zone homing receptor is CXCR5.

3. The T lymphocyte of claim 1, wherein the B cell homing receptor is encoded by the nucleotide sequence of SEQ ID NO:1 or SEQ ID NO:2, or consists of the amino acid sequence of SEQ ID NO:3 or SEQ ID NO:4.

4. The T lymphocyte of any one of claims 1-3, additionally comprising a skin homing receptor.

5. The T lymphocyte of claim 4, wherein the skin homing receptor is CLA, CCR4, or CCR10.

6. The T lymphocyte of any one of claims 1-3, additionally comprising a gastrointestinal homing receptor.

7. The T lymphocyte of claim 6, wherein said gastrointestinal homing receptor is integrin α4β7 or CCR9.

8. A T lymphocyte comprising (i) a B cell zone homing receptor not normally expressed by the T lymphocyte; and (ii) a CAR for use in the treatment of cancer or tumor in an individual wherein said T lymphocyte is to be administered to an individual in need thereof.

9. The T lymphocyte for use according to claim 8, wherein the B cell zone homing receptor is CXCR5.

10. The T lymphocyte for use according to claim 8, wherein said B cell zone homing receptor is encoded by the nucleotide sequence of SEQ ID NO:1 or SEQ ID NO:2, or consists of the amino acid sequence of SEQ ID NO:3 or SEQ ID NO:4.

11. The T lymphocyte of any one of claims 1-3, or the T lymphocyte for use according to any one of claims 8-10, wherein the extracellular domain of the CAR binds an antigen selected from the group consisting of Her2, prostate stem cell antigen (PSCA), alpha-fetoprotein (AFP), carcinoembryonic antigen (CEA), cancer antigen-125 (CA-125), CA19-9, calretinin, MUC-1, epithelial membrane protein (EMA), epithelial tumor antigen (ETA), tyrosinase, melanoma-

associated antigen (MAGE), CD 19, CD34, CD45, CD99, CD117, chromogranin, cytokeratin, desmin, glial fibrillary acidic protein (GFAP), gross cystic disease fluid protein (GCDFP-15), HMB-45 antigen, high molecular weight melanoma-associated antigen (HMW-MAA), protein melan-A (melanoma antigen recognized by T lymphocytes; MART-1), myo-D1, muscle-specific actin (MSA), neurofilament, neuron-specific enolase (NSE), placental alkaline phosphatase, synaptophysis, thyroglobulin, thyroid transcription factor-1, the dimeric form of the pyruvate kinase isoenzyme type M2 (tumor M2-PK), an abnormal ras protein, an abnormal p53 protein, fuc-GM1, GM2 (oncofetal antigen-immunogenic-1; OFA-I-1); GD2 (OFA-I-2), GM3, GD3, alpha-actinin-4, Bage-1, BCR-ABL, Bcr-Abl fusion protein, beta-catenin, CA 15-3 (CA 27.29\BCAA), CA 195, CA 242, CA-50, CAM43, Casp-8, cdc27, cdk4, cdkn2a, coa-1, dek-can fusion protein, EBNA, EF2, Epstein Barr-virus antigens, ETV6-AML1 fusion protein, HLA-A2, HLA-A11, hsp70-2, KIAA0205, Mart2, Mum-1, 2, and 3, neo-PAP, myosin class I, OS-9, pml-RARα fusion protein, PTPRK, triosephosphate isomerase, Gage 3,4,5,6,7, GnTV, Herv-K-mel, Lage-1, NA-88, NY-Eso-1/Lage-2, SP17, SSX-2, TRP2-Int2, gp100 (Pmel 17), tyrosinase, TRP-1, TRP-2, MAGE-1, MAGE-3, RAGE, GAGE-1, GAGE-2, p15(58), RAGE, SCP-1, Hom/Mel-40, PRAME, HER-2/neu, E2A-PRL, H4-RET, IGH-IGK, MYL-RAR, human papillomavirus (HPV) antigens E6 and E7, TSP-180, p185erbB2, p180erbB-3, c-met, nm-23H1, PSA, TAG-72-4, CA 19-9, CA 72-4, CAM 17.1, NuMa, 13-Catenin, Mum-1, p16, TAGE, PSMA, CT7, telomerase, 43-9F, 5T4, 791Tgp72, 13HCG, BCA225, BTAA, CD68\KP1, CO-029, FGF-5, G250, Ga733 (EpCAM), HTgp-175, M344, MA-50, MG7-Ag, MOV18, NB\70K, NY-CO-1, RCAS1, SDCCAG16, TA-90, TAAL6, TAG72, TLP, TPS, CD19, CD22, CD27, CD30, CD70, EGFRvIII (epidermal growth factor variant III), sperm protein 17 (Sp 17), mesothelin, PAP (prostatic acid phosphatase), prostein, TARP (T cell receptor gamma alternate reading frame protein), Trp-p8, STEAP1 (six-transmembrane epithelial antigen of the prostate 1), integrin avβ3 (CD61), galectin, and Rat-B.