set forth in SEQ ID NO:207 In certain embodiments, the nucleic acid molecule comprises nucleic acids having the sequence set forth in SEQ ID NO:208. In certain embodiments, the nucleic acid molecule comprises nucleic acids having the sequence set forth in SEQ ID NO:209. In certain embodiments, the nucleic acid molecule comprises nucleic acids having the sequence set forth in SEQ ID NO:229. In certain embodiments, the nucleic acid molecule comprises nucleic acids having the sequence set forth in SEQ ID NO:230. In certain embodiments, the nucleic acid molecule comprises nucleic acids having the sequence set forth in SEQ ID NO:231. In certain embodiments, the nucleic acid molecule comprises nucleic acids having the sequence set forth in SEQ ID NO:232. In certain embodiments, the nucleic acid molecule comprises nucleic acids having the sequence set forth in SEQ ID NO:233. In certain embodiments, the nucleic acid molecule comprises nucleic acids having the sequence set forth in SEQ ID NO:234. In certain embodiments, the nucleic acid molecule comprises nucleic acids having the sequence set forth in SEQ ID NO:235. In certain embodiments, the vector is a γ-retroviral vector. In certain embodiments, the host cell is a T cell.

Furthermore, the presently disclosed subject matter provides methods of using the above-described immunoresponsive cell for reducing tumor burden in a subject. For example, the presently disclosed subject matter provides methods of reducing tumor burden in a subject, where the method comprises administering an effective amount of the presently disclosed immunoresponsive cell to the subject, thereby inducing tumor cell death in the subject. In certain embodiments, the method reduces the number of tumor cells. In another embodiment, the method reduces the tumor size. In yet another embodiment, the method eradicates the tumor in the subject. In certain embodiments, the tumor is selected from the group consisting of multiple myeloma, Non-Hodgkin Lymphoma, Hodgkin Lymphoma, Chronic Lymphocytic Leukemia (CLL), glioblastoma, and Waldenstrom's Macroglobulinemia. In certain embodiments, the tumor is multiple myeloma. In certain embodiments, the subject is a human. In certain embodiments, the immunoresponsive cell is a T cell.

Furthermore, the presently disclosed subject matter provides use of an effective amount of the immunoresponsive cell as described herein, in the manufacture of a medicament for reducing tumor burden in a subject.

Furthermore, the presently disclosed subject matter provides use of an effective amount of the immunoresponsive cell as described herein, in the

manufacture of a medicament for increasing or lengthening survival of a subject having neoplasia.

Furthermore, the presently disclosed subject matter provides methods of using the above-described immunoresponsive cell for increasing or lengthening survival of a subject having neoplasia. For example, the presently disclosed subject matter provides methods of increasing or lengthening survival of a subject having neoplasia, where the method comprises administering an effective amount of the presently

83. The isolated nucleic acid molecule of claim 81, comprising nucleic acids having the sequence set forth in SEQ ID NO:208.

84. The isolated nucleic acid molecule of claim 81, comprising nucleic acids having the sequence set forth in SEQ ID NO:209.

85. The isolated nucleic acid molecule of claim 81, comprising nucleic acids having the sequence set forth in SEQ ID NO:229.

86. The isolated nucleic acid molecule of claim 81, comprising nucleic acids having the sequence set forth in SEQ ID NO:230.

87. The isolated nucleic acid molecule of claim 81, comprising nucleic acids having the sequence set forth in SEQ ID NO:231.

88. The isolated nucleic acid molecule of claim 81, comprising nucleic acids having the sequence set forth in SEQ ID NO:232.

89. The isolated nucleic acid molecule of claim 81, comprising nucleic acids having the sequence set forth in SEQ ID NO:233.

90. The isolated nucleic acid molecule of claim 81, comprising nucleic acids having the sequence set forth in SEQ ID NO:234.

91. The isolated nucleic acid molecule of claim 81, comprising nucleic acids having the sequence set forth in SEQ ID NO:235.

92. A vector comprising the isolated nucleic acid molecule of any one of claims 81-91.

93. The vector of claim 92, wherein the vector is a γ-retroviral rector.

94. A host cell expressing the nucleic acid molecule of any one of claims 81-91.

95. The host cell of claim 94, wherein the host cell is a T cell.

96. Use of an effective amount of the immunoresponsive cell of any one of claims 72-80, in the manufacture of a medicament for reducing tumor burden in a subject.

97. The use of claim 96, wherein the method reduces the number of tumor cells.

98. The use of claim 96, wherein the method reduces tumor size.

99. The use of claim 96, wherein the method eradicates the tumor in the subject.

100. The use of any one of claims 96-99, wherein the tumor is selected from the group consisting of multiple myeloma, Non-Hodgkin Lymphoma, Hodgkin Lymphoma, Chronic Lymphocytic Leukemia (CLL), glioblastoma, and Waldenstrom's Macroglobulinemia.

101. The use of any one of claims 100, wherein the tumor is multiple myeloma.

102. The use of any one of claims 96-101, wherein the subject is a human.

103. The use of any one of claims 96-102, wherein the immunoresponsive cell is a T cell.

104. Use of an effective amount of the immunoresponsive cell of any one of claims 72-80 to the subject, in the manufacture of a medicament for increasing or lengthening survival of a subject having neoplasia.

105. The use of claim 104, wherein the neoplasia is selected from the group consisting of multiple myeloma, Non-Hodgkin Lymphoma, Hodgkin Lymphoma, Chronic Lymphocytic Leukemia (CLL), glioblastoma, and Waldenstrom's Macroglobulinemia.

106. The use of claim 105, wherein the neoplasia is multiple myeloma.

107. The use of any one of claims 104-106, wherein the method reduces or eradicates tumor burden in the subject.

108. A method for producing an immunoresponsive cell that binds to B cell maturation antigen (BMCA), comprising introducing into the immunoresponsive cell