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(71) Applicant: **WHITEHEAD INSTITUTE FOR BIOMEDICAL RESEARCH** [US/US]; Nine Cambridge Center, Cambridge, MA 02142 (US).

(72) Inventors: **DOHOON, Kim**; 270 Highland Avenue, Apt. 12, Somerville, MA 02143 (US). **SABATINI, David, M.**; 12 Surrey Street, Cambridge, MA 02138 (US). **POSEMATO, Richard**; 141 Nottingham Road #1, Brighton, MA 02135 (US).

(74) Agent: **TREANNE, Lisa, M.**; Morse, Barnes-Brown & Pendleton, P.C., Citypoint 230 Third Avenue, 4th Floor, Waltham, MA 02451 (US).

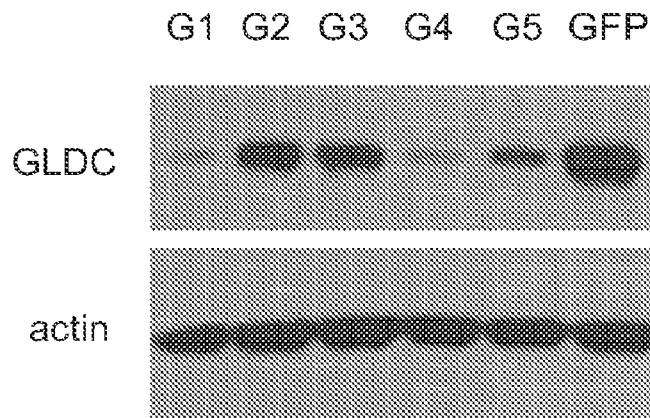
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(54) Title: INHIBITION OF THE GLYCINE CLEAVAGE SYSTEM FOR TREATMENT OF CANCER



(57) Abstract: In some aspects, methods of inhibiting survival or proliferation of a tumor cell are provided, the methods comprising inhibiting the glycine cleavage system (GCS) of the tumor cell. In some aspects, methods of treating a subject in need of treatment for a tumor, the method comprising inhibiting the GCS in the tumor. In some embodiments, the methods comprise contacting a tumor cell or tumor with a GCS inhibitor. In some embodiments, the tumor cell or tumor has elevated expression of serine hydroxymethyltransferase 2 (SH1VIT2). In some aspects, methods of identifying a tumor cell or tumor that is sensitive to inhibiting the GCS are provided, the methods comprising determining whether the tumor cell or tumor overexpresses SHMT2. In some aspects, methods of identifying a candidate anti-cancer agent are provided, the methods comprising identifying or modifying a GCS inhibitor.

