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(71) Applicant: UNIVERSITY OF UTAH RESEARCH
FOUNDATION [US/US]; 615 Arapen Drive, Suite 310,
Salt Lake City, UT 84108 (US).(72) Inventors: VANKAYALAPATI, Hariprasad; 11558
South Sugar Berry Rd., Draper, UT 84020 (US). SORNA,
Venkataswamy; #831 University Village, Salt Lake City,
UT 84108 (US). WARNER, Steve, L.; 1237 Holly Ridge
Rd., Sandy, UT 84094 (US). BEARSS, David, J.; 1287E
900S, Alpine, UT 84004 (US). SHARMA, Sunil; 91
Edgecombe Drive, Salt Lake City, UT 94103 (US).
STEPHENS, Bret; 11934 Heather Dee Circle, Riverton,
UT 84065 (US).(74) Agents: POLYAKOV, Mark, V. et al.; Wood, Phillips.
Katz, Clark & Mortimer, 500 West Madison Street, Suite
1130, Chicago, IL 60661 (US).

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(54) Title: SUBSTITUTED (E)-N'-(1-PHENYLETHYLIDENE) BENZOHYDRAZIDE ANALOGS AS HISTONE DE-METHYLASE INHIBITORS

(57) Abstract: Substituted (E)-N'-(1-phenylethylidene)benzohydrazide analogs or (3-(5-chloro-2-hydroxyphenyl)-4-METHYL-1 H-pyrazol-1-YL)(3-(morpholinisulfonyl)phenyl)methanone, derivatives thereof, and related compounds are useful as inhibitors of lysine-specific histone demethylase, including LSD1. Synthetic methods for making the compounds; pharmaceutical compositions comprising the compounds; and methods of using the compounds and compositions to treat disorders associated with dysfunction of the LSD1 (lysine-specific demethylase). A pharmaceutically acceptable salt, hydrate, solvate, or polymorph thereof, and one or more of: (a) at least one agent known to increase histone demethylase activity; (b) at least one agent known to decrease histone demethylase activity; (c) at least one agent known to treat a disorder of uncontrolled cellular proliferation; (d) at least one agent known to treat a neurodegenerative disorder; (e) instructions for treating a neurodegenerative disorder; or (f) instructions for treating a disorder associated with uncontrolled cellular proliferation.

