Cough suppressant knocks some hearts back into rhythm

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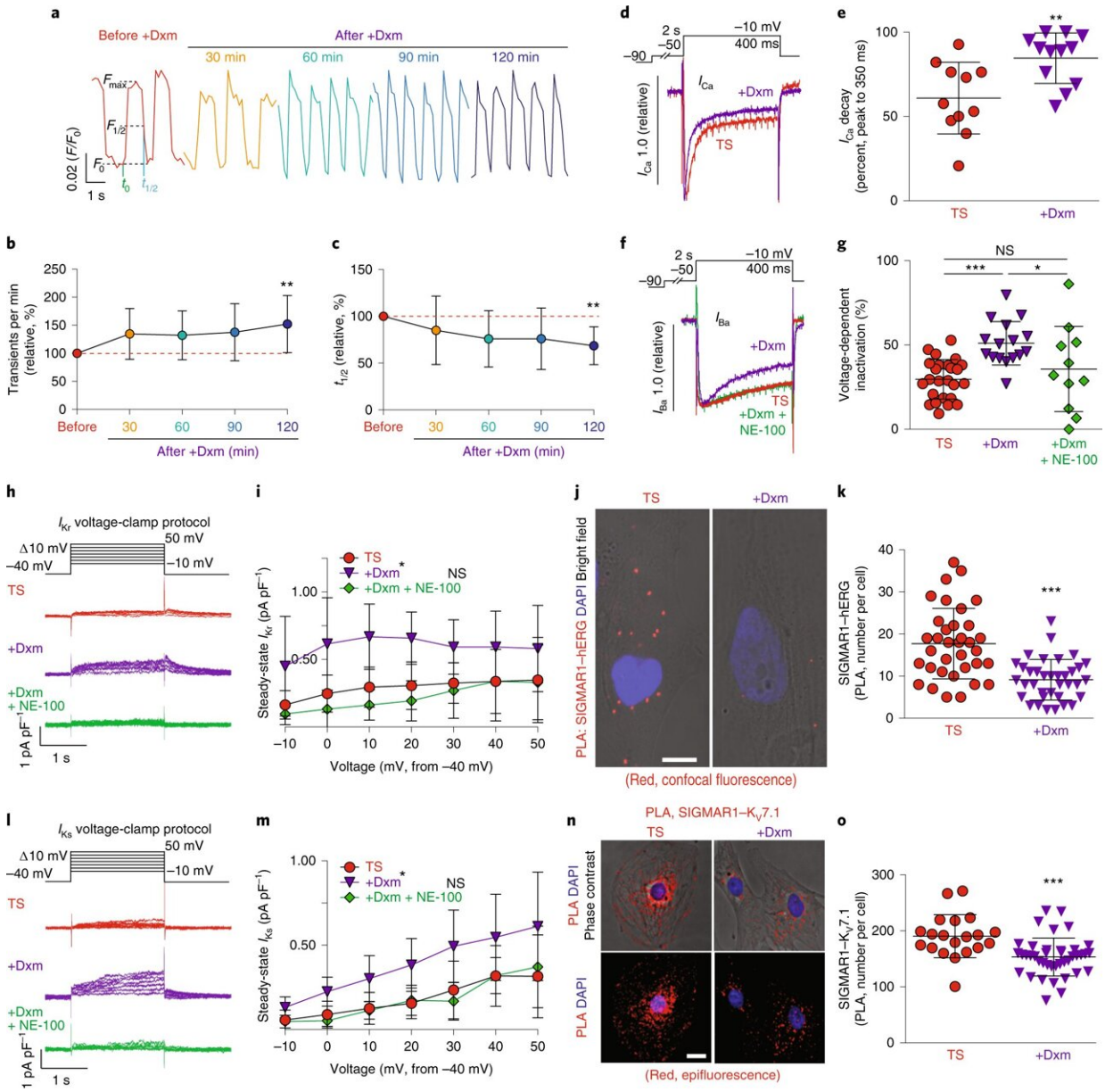

The effect of dextromethorphan on cardiac Ca^{2+} handling and ion channels in a human iPSC model of TS. a, Representative traces of time-course Ca^{2+} imaging in spontaneously contracting cardiomyocytes from patients with TS treated with dextromethorphan (5 μM, until 120 min). b,c, Ca^{2+} transient frequency (b) and duration (c) analyses of cardiomyocytes from patients with TS before and after dextromethorphan treatment (n = 19). d, Representative traces of Ca^{2+} currents in cardiomyocytes from patients with TS with and without dextromethorphan. e, Late Ca^{2+} current analysis of cardiomyocytes from patients with TS with and without dextromethorphan treatment (TS, n = 11; with dextromethorphan, n = 12). f, Representative traces of Ba^{2+} currents in cardiomyocytes from patients with TS without treatment or treated with dextromethorphan (5 μM, 2 h, dextromethorphan) or with dextromethorphan and a SIGMAR1 antagonist, NE-100 (1 μM, dextromethorphan and NE-100). g, Voltage-dependent inactivation in cardiomyocytes from patients with TS without treatment (n = 25) or treated with dextromethorphan (n = 16) or with dextromethorphan and NE-100 (n = 11). h, Representative traces of IKr currents (E-4031 sensitive) in cardiomyocytes from patients with TS treated with dextromethorphan (5 μM) or dextromethorphan and NE-100 (each at 5 μM) or without treatment. i, IKr current amplitude analysis of cardiomyocytes from patients with TS treated with dextromethorphan (n = 9) or dextromethorphan and NE-100 (n = 10) or without treatment (n = 10) (*P