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(54) **CARDIOVASCULAR AND BRAIN CELL  
THERAPY USING INTRACELLULAR  
RYANODINE RECEPTOR MODULATION BY  
THE ESTROGEN RECEPTOR BETA**

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(57) **ABSTRACT**

The present invention includes compositions and methods for screening for a candidate substance with ryanodine receptor (RyR)-modulatory activity, the method including: determining the ion-conducting ability and ability to change the concentration of the free cytoplasmic intracellular Ca<sup>2+</sup> by the RyR modulated by Estrogen receptor-β (ERβ) in cells or cell membranes expressing RyR and ERβ combination with, or in the absence of the estrogen; contacting the cells or cell membranes with a candidate substance capable of modulation the interaction between RyR and ERβ; and measuring the RyR mediated ion-conducting ability of the cells or cell membranes to change the concentration of the free cytoplasmic intracellular Ca<sup>2+</sup> by the candidate substance, whereby the modulatory activity of the candidate substance on RyR/ERβ interaction is determined.