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(71) Applicant: RESEARCH DEVELOPMENT FOUNDATION [US/US]; 402 North Division Street, Carson City, NV 89703 (US).

(72) Inventors: VALE, Wylie; 1643 Valdes Drive, La Jolla, CA 92037 (US). GRAY, Peter, C.; 131 Via Morella, Encinitas, CA 92024 (US). BLOUNT, Amy, L.; Apartment C, 3131 Via Alicante, La Jolla, CA 92037 (US). LEWIS, Kathy, A.; 1760 Montecito Way, San Diego, CA 92103 (US). BILEZIKJIAN, Louise, M.; 2970 Havusupai Avenue, San Diego, CA 92117 (US).

(74) Agent: WEILER, James, F.; Suite 1560, 1 Riverway, Houston, TX 77056 (US).

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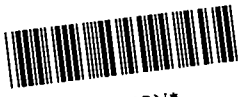
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ACTION

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(54) Title: BETAGLYCAN AS AN INHIBIN RECEPTOR AND USES THEREOF

(57) Abstract: Inhibins and activins are protein hormones that reciprocally modulate a diversity of regulatory pathways. Competitive binding experiments revealed that betaglycan, the type III TGF-β receptor, also functions as an inhibin receptor. Betaglycan augments the binding of inhibin to the ActRII activin receptor. By augmenting inhibin binding to ActRII, betaglycan effectively sequesters ActRII away from activin and thereby reduces activin signaling. In addition, the ActRII-betaglycan complex may generate novel signals distinct from those initiated by activin signaling via ActRII and ALK4. Betaglycan is produced in discrete nuclei of the rat brain and by specific cell types within the adult rat pituitary, testis, and ovary. The presence of betaglycan within inhibin-responsive tissues and cell types, together with the ability of this protoglycan to bind inhibin and to confer inhibin sensitivity, is consistent with a role of betaglycan as an inhibin-specific receptor mediating inhibin responses within various tissues.