



**Araclon Biotech, S.L.**

Franz Schubert, 2, 3ª planta  
(Clínica Montecanal)  
50012 Zaragoza - Spain



**Title:** Effect of age and severity of cognitive dysfunction on spontaneous activity in pet dogs - part 2: social responsiveness.

**Autor:** B. Rosado<sup>a</sup>, 1, Á. González-Martínez<sup>b</sup>, 1, P. Pesini<sup>c</sup>, S. García-Belenguer<sup>a</sup>, J. Palacio<sup>a</sup>, A. Villegas<sup>a</sup>, M.-L. Suárez<sup>b</sup>, G. Santamarina<sup>b</sup>, M. Sarasa<sup>c</sup>

a. Departamento de Patología Animal, Facultad de Veterinaria, Universidad de Zaragoza, 50013 Zaragoza, Spain

b. Departamento de Ciencias Clínicas Veterinarias, Facultad de Veterinaria de Lugo, Universidad de Santiago de Compostela, 27002 Lugo, Spain

c. Araclon Biotech Ltd., 50012 Zaragoza, Spain

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**Abstract:**

Changes in social interactions with owners and other dogs are frequently observed in dogs with cognitive dysfunction syndrome (CDS). The aim of this work was to assess the effect of age and severity of CDS on social responsiveness. This is the second part of a 2-part report on spontaneous activity in pet dogs. A human interaction test and a mirror test were administered at baseline and 6 months later to assess social responses to humans and conspecifics, respectively, to four groups of privately-owned dogs: young (n=9), middle-aged (n=9), cognitively unimpaired aged (n=31), and cognitively impaired aged (n=36). The severity of cognitive impairment was considered in the last group and dogs were categorised as having either mild or severe CDS. The influence of the person and the mirror on locomotion and exploratory behaviour was also studied. Dogs were recorded in a testing room and the video recordings were subsequently analysed. Young dogs displayed more interactions involving physical contact with a person. Young and middle-aged dogs showed more vocalisations in response to social isolation. In contrast, aged animals spent more time in front of the mirror. Changes in social responsiveness associated with severe CDS included decreased response to social isolation and human interaction and increased time in front of the mirror, suggesting a deficit in habituation. Testing of spontaneous activity might help to characterise CDS in aged dogs, a condition increasingly diagnosed in veterinary clinics and a potentially useful natural model of Alzheimer's disease in humans.

**Erratum:** Erratum to “Effect of age and severity of cognitive dysfunction on spontaneous activity in pet dogs – Part 2: Social responsiveness” [The Veterinary Journal 194 (2012) 196–201]

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