Encuentro de Investigación *Buscando sinergias*
Alicante | 7 de junio de 2022 · Hospital General Universitario Dr. Balmis de Alicante. Salón de actos. De 10:00 h. a 13:30 h.

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Corticotropin-releasing hormone signaling from prefrontal cortex to lateral septum supports social novelty preference
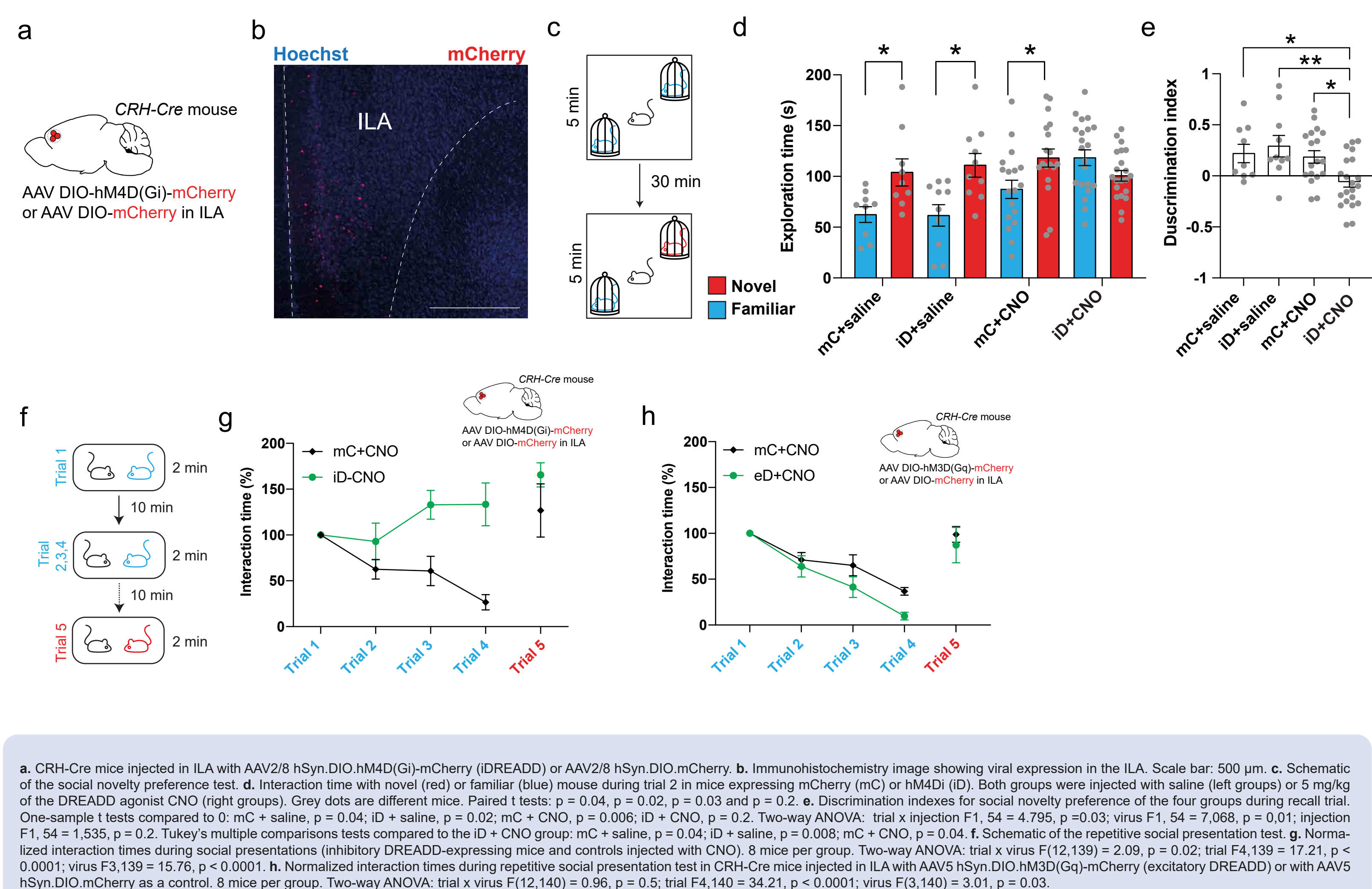
Noelia Sofia de León Reyes[1], Paula Sierra Díaz[1], Ramon Nogueira[2], Antonia Ruiz[1], Yuki Nomura[1], Christopher de Solis[2], Jay Shulkin[3], Arun Asok[2], Félix Leroy[1]

Social preference, the decision to interact with one member of the same species over another, is a key feature of optimizing social interactions.
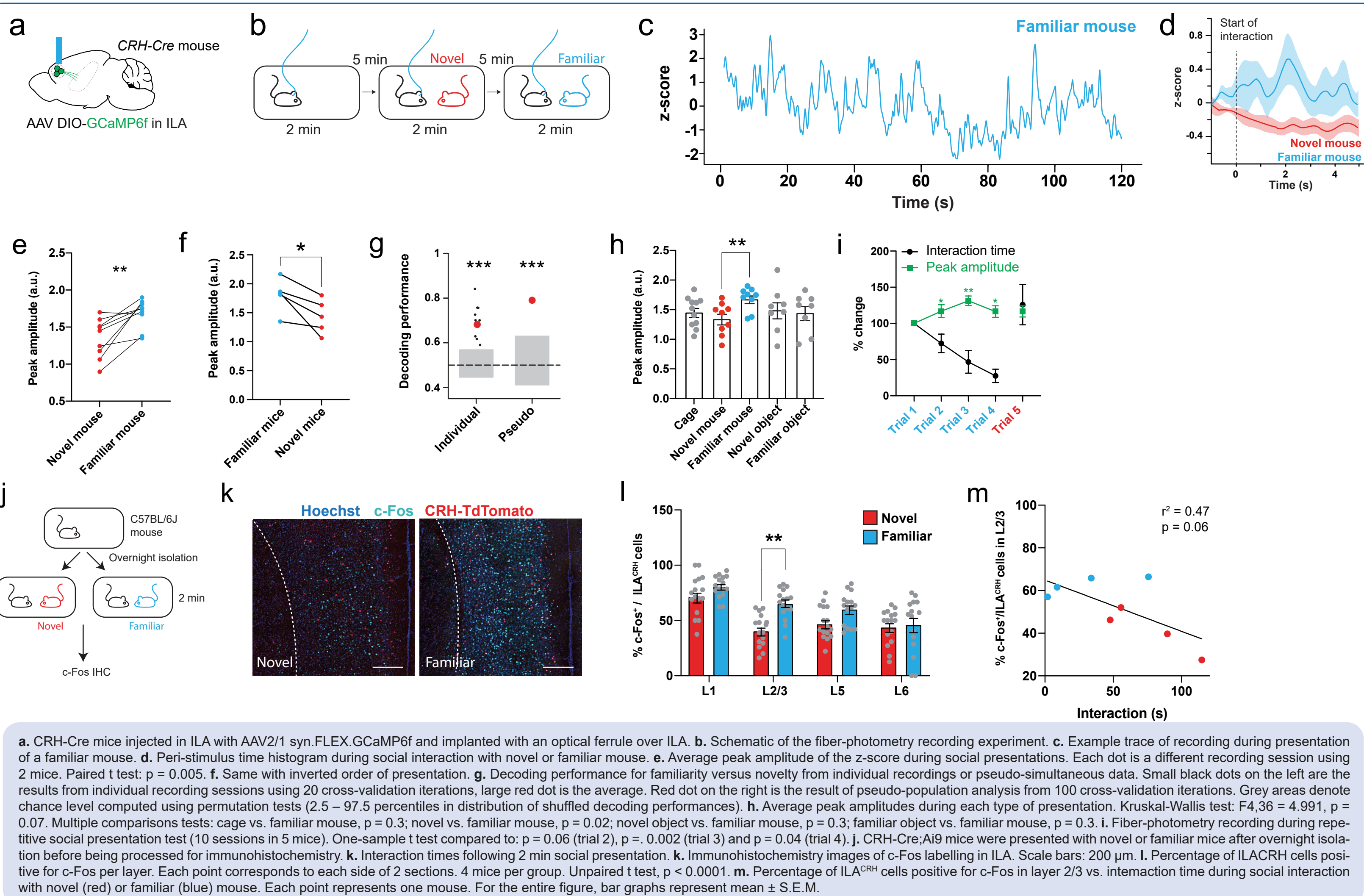At present, it is unclear which neuronal circuits guide social preferences and whether such circuits promote social interactions with the preferred individuals or suppress interactions with the non-preferred ones.
Here, we identify a population of inhibitory neurons in ILA that express the neuropeptide corticotropin-releasing hormone (CRH) and project to the rostro-dorsal region of LS (rdLS). Release of CRH from ILA in rdLS during interactions with familiar mice disinhibits rdLS neurons, thereby suppressing interactions with familiar mice and contributing to social novelty preference. We further demonstrate how the maturation of CRH expression during the first two post-natal weeks enables the developmental shift from a preference for littermates in juveniles to a preference for novel mice in adults.
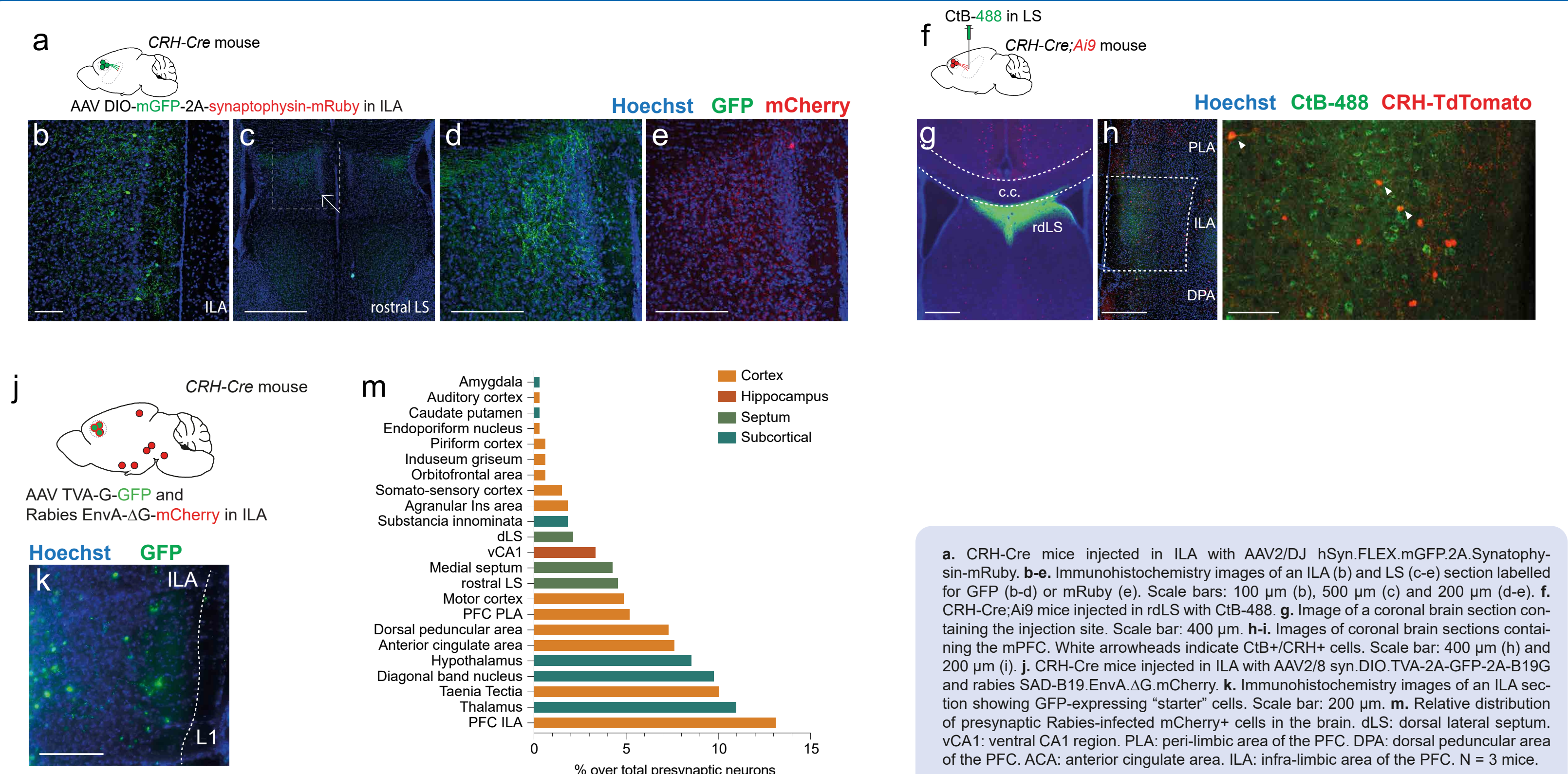
Silencing ILA^CRH cells impairs social novelty preference (SNP) and familiarization.
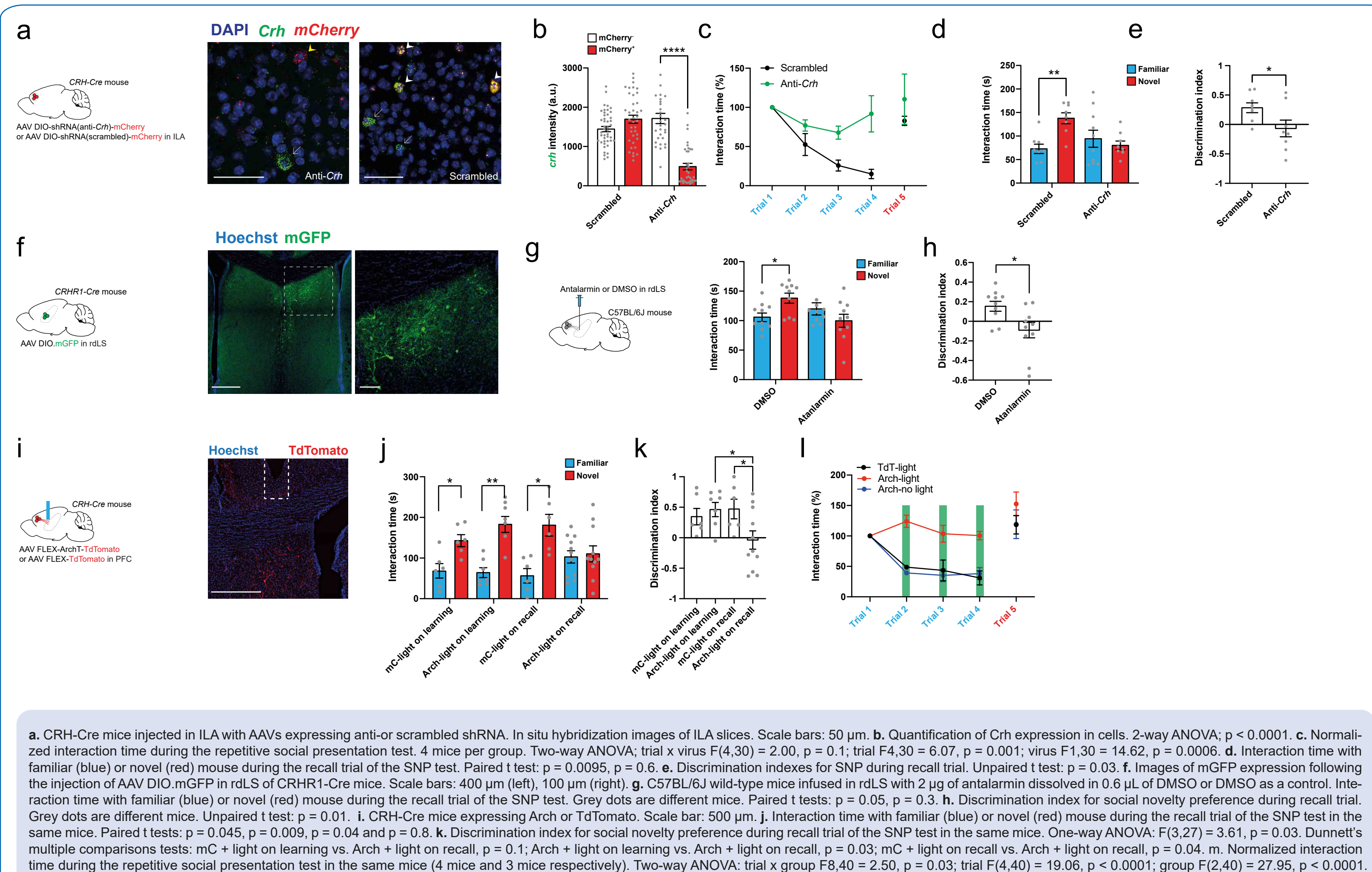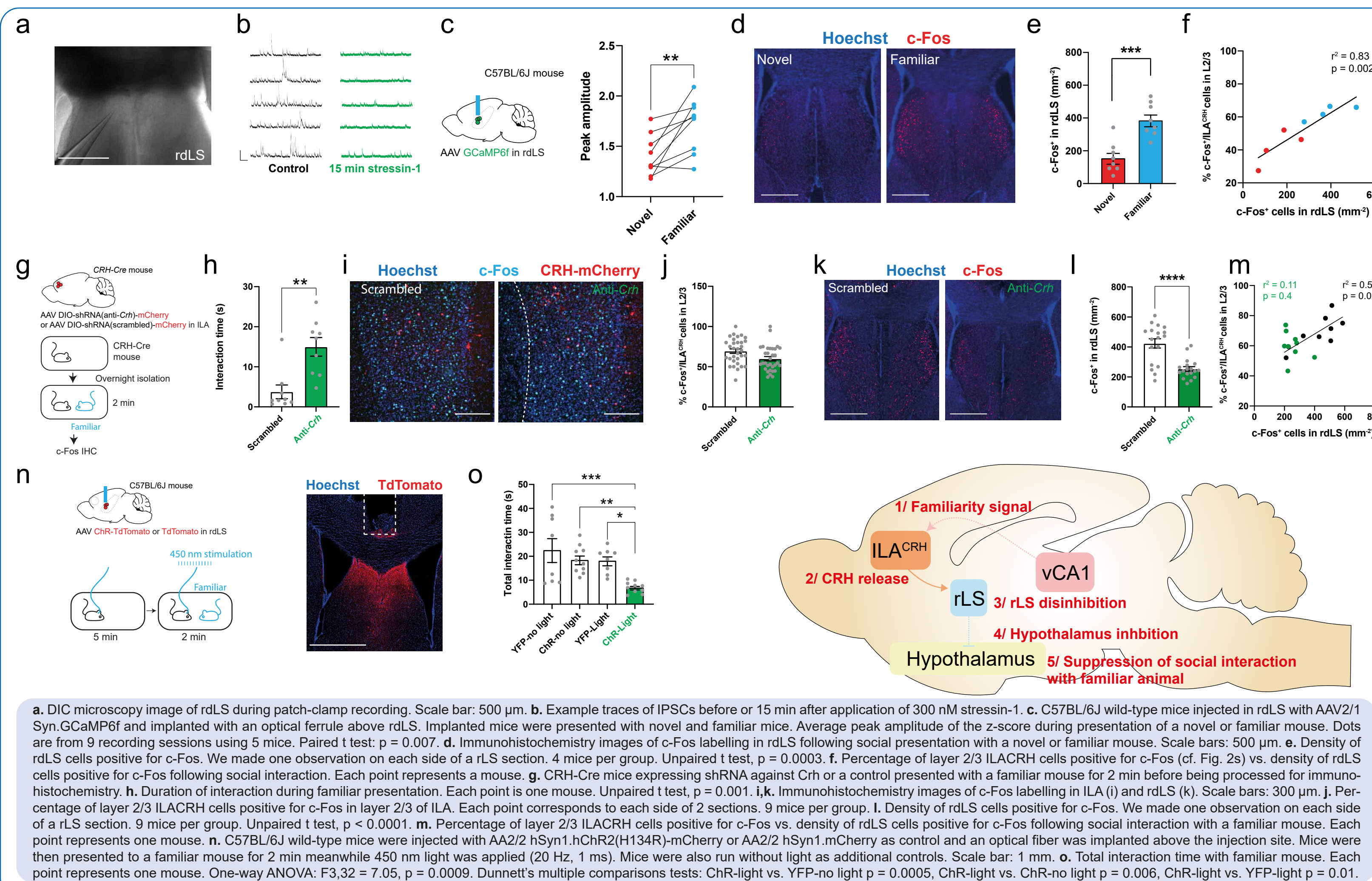

CRH release from ILA in rdLS suppresses social interactions with familiar mice and supports social novelty preference.

ILA^CRH cells respond to social familiarity.

CRH signaling from ILA in rdLS suppresses social interactions with familiar mice through rdLS disinhibition.

CRH cells from the ILA layer 2/3 project to rostral LS.

Increased CRH expression supports the shift in social preference in young mice.