



**Figure 4.** Histone demethylation by oxidation. (A) Schematic representation of human LSD1 domain organization: the amino-terminal putative nuclear localization signal, followed by a SWIRM (Swi3p, Rsc8p, and Moira) domain, and the catalytic oxidase domain. The oxidase domain contains an atypical insertion of the Tower domain not found in other oxidases. (B) Scheme of the demethylation reaction catalyzed by LSD1. (C) Crystal structure of LSD1-CoREST in complex with the SNAIL1 peptide (PDB 2Y48). LSD1 includes residues 171–836 in red, blue, and magenta. CoREST shows residues 308–440 in orange. The SNAIL1 peptide is in green, and the FAD cofactor is shown as a yellow ball-and-stick. (D) Superposition between SNAIL1 (orange) and histone H3 (gray) peptides. (Adapted from Baron et al. 2011).