

FOXO4-DRI

FOXO4-DRI is a synthetic D-retro-inverso peptide designed to disrupt the interaction between the transcription factor FOXO4 and p53 in senescent cells. It was described in a 2017 Cell paper as a senolytic in mice; human data are absent.

Evidence	Preclinical (animal and cell studies)
US status	Not FDA-approved for any use
WADA	Check the current Prohibited List

46-residue D-retro-inverso peptide; sequence as published by Baar et al., 2017.

What the COA should show

A FOXO4-DRI certificate of analysis should confirm identity by mass spectrometry against the expected mass shown on this page and report HPLC purity. Because this is a long peptide made entirely of D-amino acids, standard MS cannot confirm stereochemistry; chiral amino acid analysis is needed to show that the material is the D-form rather than an all-L or mixed product. Long syntheses produce deletion and truncation impurities, which should be addressed. The certificate should state the exact sequence, including any cell-penetrating segment, along with salt form and net peptide content. Arginine-rich sequences carry many counter-ions.

Storage and stability

Store lyophilized FOXO4-DRI sealed at -20 °C or below, protected from light and moisture. D-amino acid peptides resist proteolysis, but they remain subject to chemical degradation and moisture uptake. Arginine-rich cationic peptides can aggregate or adsorb to surfaces in solution, so use low-binding labware, prepare solutions close to use, aliquot them and avoid repeated freeze-thaw cycles.

Full entry, references and latest research: <https://peptidewiki.net/compounds/foxo4-dri/>
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