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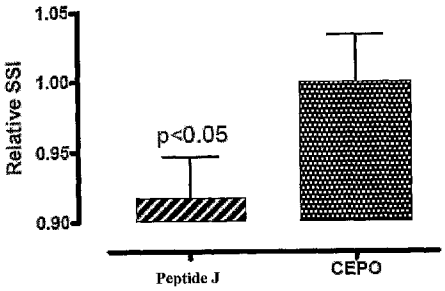
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(54) **Title:** TISSUE PROTECTIVE PEPTIDES AND USES THEREOF



(57) **Abstract:** The present invention is directed to novel tissue protective peptides. The tissue protective peptides of the invention may bind to a tissue protective receptor complex. In particular, the present invention is drawn to tissue protective peptides derived from or sharing consensus sequences with portions of cytokine receptor ligands, including Erythropoietin (EPO), that are not involved in the binding of the ligand to the receptor complex, e.g., to the EPO receptor homodimer. Accordingly, the tissue protective peptides of the invention are derived from the amino acid sequences of regions of cytokine receptor ligands that are generally located on or within the region of the ligand protein that is opposite of the receptor complex, i.e., are generally derived from amino acid sequences of regions of the ligand protein that face away from the receptor complex while the ligand is bound to the receptor. The invention is further directed to the consensus sequences for use in engineering a synthetic tissue protective peptide. These tissue protective peptides also include fragments, chimeras, as well as peptides designed to mimic the spatial localization of key amino acid residues within the tissue protective receptor ligands, e.g., EPO. The invention further encompasses methods for treating or preventing a disease or disorder using tissue protective peptides of the current invention. The invention also encompasses methods for enhancing excitable tissue function using tissue protective peptides of the current invention.

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