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(54) Title: PEPTIDE IMMUNOGENS TARGETING INTERLEUKIN 6 (IL-6) AND FORMULATIONS THEREOF FOR IM-
MUNOTHERAPY OF DISEASES IMPACTED BY IL-6 DYSREGULATION

Figure 1
Alignment of IL6 sequences from human, macaque, mouse and rat
species (SEQ ID NOs: 227-230).

Human	MNSFSTSAFGPVAFSLGLLVLPAAFPAPVPPGEDSKDVAAPHRQPLTSSERIDKQ
Macaque	MNSFSTSAFGPVAFSLGLLVLPAAFPAPVLPGEDSKNVAAPHSQPLTSSERIDKH
Mouse	MKFLSARDFHPVAF-LGLMLVTTTAFPTSQVRRGDFTEDTTPNR-PVYTTSQVGGL
Rat	MKFLSARDFQPVAF-LGLMLLTATAFPTSQVRRGDFTEDTTHNR-PVYTTSQVGGL
Human	IRYILDGTSALRKETCNKSNMCESSKEALAENNLNLPKMAEKDGGCFQSGGFNEETCL
Macaque	IRYILDGTSALRKETCNRSNMCESSKEALAENNLNLPKMAEKDGGCFQSGGFNEETCL
Mouse	ITHVLWEIVEMRKELCNGNSDCMNDDALAENNLKLPETQRNDGCYQTGYNQEICL
Rat	ITYVLREILEMRKELCNGNSDCMNSDDALSENNLKLPETQRNDGCYQTGYNQEICL
Human	VKIITGLLEFEVYLEYLQNRFESE-EEQARAVQMSTKVLIQFLQKKAKNLDAITTP
Macaque	VKIITGLLEFEVYLEYLQNRFESE-EEQARAVQMSTKVLIQFLQKKAKNLDAITTP
Mouse	LKISSGLLEYHSYLEYMKNLKNKKDKARVLQDTELTIHIFNQEVKDLHKIVLP
Rat	LKICSGLLEFRFYLEFVKNNLQDNKKDKARVIQSNTELTIVHIFKQEIKDSYKIVLP
Human	DPTTNASLLTKLQAQ-NQWLQDMTHLILRSFKFELQSSLRALRQM (SEQ ID NO. 227)
Macaque	EPTTNASLLTKLQAQ-NQWLQDMTHLILRSFKFELQSSLRALRQM (SEQ ID NO. 228)
Mouse	TPISNALLTDKLESQ-KEWLRTKTIQFILKSLEEFKLVTRSTRQT (SEQ ID NO. 229)
Rat	TPTSNALLMEKLESQ-KEWLRTKTIQLILKALEEFKLVTRSTRQT (SEQ ID NO. 230)

(57) Abstract: The present disclosure is directed to individual peptide immunogen constructs targeting portions of the Interleukin-6 (IL-6) protein, compositions containing the constructs, antibodies elicited by the constructs, and methods for making and using the constructs and compositions thereof. The disclosed IL-6 peptide immunogen constructs contain a B cell epitope from IL-6 linked to a heterologous T helper cell (Th) epitope directly or through an optional heterologous spacer. The IL-6 peptide immunogen constructs stimulate the generation of highly specific antibodies directed to the IL-6 receptor (IL-6R) binding site for the prevention and/or treatment of diseases impacted by IL-6 dysregulation.

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