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ProLynx announces preclinical results of long-acting semaglutide requiring once monthly dosing

SAN FRANCISCO, Aug. 21, 2024 (GLOBE NEWSWIRE) -- ProLynx Inc. today announced the use of their technology to create a long-acting semaglutide that can be administered once monthly. The ProLynx technology involves tethering a therapeutic to hydrogel microspheres via linkers with tunable, pre-programmed release rates. Semaglutide is a peptide GLP-1 agonist that is the active ingredient in the Novo Nordisk blockbuster drugs Ozempic[®] and Wegovy[®]; Ozempic[®] is used to treat Type 2 diabetes, whereas Wegovy[®] is a higher-dose version approved for weight loss. Combined sales of these drugs reached about \$20 billion in 2023, and demand exceeded supply. Semaglutide has a half-life of about 160 hours and, as with most anti-obesity peptides, must be administered once weekly.

All peptide drugs have short half-lives and require some form of half-life extension. Almost all of the current anti-obesity drugs, including semaglutide, are "lipidated" peptides – attached to a fatty acid – that require once weekly injections. The ProLynx long-acting semaglutide was targeted for once monthly administration, and pharmacokinetic experiments verified an extended half-life of about 30 days in mice. Importantly, a single injection in diet-induced obese mice showed about a 20% weight loss after 30 days, comparable to multiple injections of semaglutide over the same period.

Daniel Santi, co-founder and President of ProLynx, stated, "Our long-acting semaglutide is compelling because it uses the very same semaglutide that is already approved by the FDA and well-known to patients. The technology simply converts the once weekly drug to one that can be administered once monthly. Previously, ProLynx developed a long-acting monthly peptide GLP-1 agonist as an agent for the treatment of type-2 diabetes (Schneider et al., ACS Chem. Biol. 2017), but this is the first time we achieved this with a lipidated peptide."

Using the same approach, ProLynx envisions converting other lipidated peptides of high current interest from once weekly to once monthly administration. Additionally, simulations indicate that the long half-lives and high potencies of some GLP-1 agonists might allow for dosing every three or more months. This could be particularly important in certain patient populations because dosing could coincide with doctor's visits.

ProLynx is a San Francisco biotechnology company developing proprietary systems to extend the half-life and improve pharmacokinetics and efficacy, while reducing toxicities of important therapies. ProLynx focuses efforts on areas of unmet needs that its technology can uniquely fill (www.ProLynxinc.com). Contact: BD@ProLynxinc.com