32 (1992)

Properties and methods of preparation of the anti-diabetic substance (glucopyron) generated by the pancreas.

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Repetition of several older methods of extraction of pancreas proved that with very slight modification any one of them was adequate to demonstrate the presence of the anti-diabetic substance. The essential steps in its preparation are: (1) destruction of trypsin; (2) precipitation of extraneous proteins; (3) concentration; and (4) removal of irritant substances. Banting[1] and Macleod[2] appear to have adopted exclusively the method of alcoholic extraction and have given the name *insulin* to the alcoholic extract. Just as potent and non-toxic extracts may be prepared with aqueous media. The active substance is *not* all in the final precipitate with absolute alcohol as stated by Collip[3]. It is non-dialyzable through vegetable parchment in four hours' immersion in running water; it is not precipitated by most of the ordinary reagents employed for the precipitation of proteins. It withstands boiling for 5 minutes in acid (N/10) media; and it may be adsorbed on several different reagents commonly used for this purpose.

Proof that an aqueous extract given with small amount of alkali (N/20 NaOH) by stomach tube will cause oxidation of sugar in the depancreatized dog was given by Kramer[4] and the writer in 1916. For the active substance itself (not the entire alcoholic extract) however obtained and whatever its chemical nature the name *Glucopyron* (*Glykos,* sugar and *Pyron,* burning) is suggested.

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[1] Banting and Best, *Journ. of Lab. and Clin. Med.*, 1922, vii, 464.

[2] Macleod *et al.*, *Amer. Journ. of Physiol.*, 1922, lxii, 162.

[3] Collip, J. B., *Trans. Roy. Soc. of Canada*, 1922, xvi.

[4] Murlin and Kramer, *Journ. of Biol. Chem.*, 1916, xxvii, 516.