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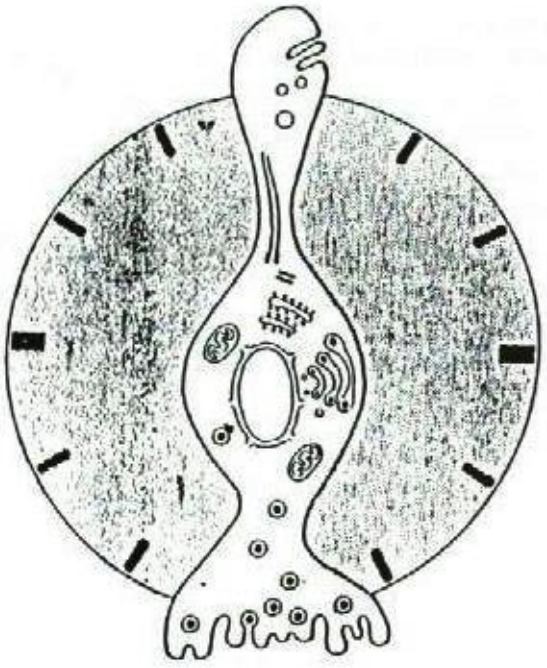

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Molecular mechanism of bone marrow thrombocytogenesis by melatonin.

Melatonin (MLT) promotes platelet outcome from rat's bone marrow megacaryocites (MG) in vitro (Di Bella et al. Boll. Soc. It. Biol. Sper., 1979, **55**, 318-330; 389-393). MLT, moreover, with stands rat's and man's platelet aggregation, as promoted by ADP addition (Di Bella et al., l.c., Com. 54, 68, 114; Cardinali, Melatonin: ..., Pergamon Press, 1980, 247-256).

Both effects may be at least partly identical, inasmuch as they are exerted on the same membranes of platelets which are not at all or hardly any more agglutinated. However , not all points over the external membrane of MG seem to be identical, at least where they unite to shut up the cytosol of the future platelet. These sites seem to be in a position as to coalesce with the next borders of the demarcation membrane system, when MLT reaches a topically adequate concentration.

Indeed in the presence of NAT inhibitors plus MLT, a multitude of forming platelets gather together on the surface of MG. This means not only that NAT is extant on the same point over the surface membrane of MG, but moreover that 5-methoxytryptamine is active in thrombocytopoiesis only when it is N-acylated (=Melatonin). The 5-methoxy-group is less important in this occurrence than N-acetyl group, inasmuch as HIOMT inhibitors are far less active on MLT induced thrombocytopoiesis than NAT inhibitors. Probable MLT sites are present on platelet membrane too; their role resides, however, in reversibly changing the platelet shape and inhibiting the secondary action of ADP on platelet aggregation. NAT and HIOMT inhibitors play therefore a negligible role in platelet aggregation.

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Alimentary behaviour following pinealectomy.

Male Wistar rats fed a complete, balanced diet, housed in single cages, at a constant ambient temperature, at a dark/light cycle of 12/12 hrs (light: 10:22), were pinealectomized or sham-operated according to Kuszak & Rodin (Experientia, 1977, **33**, 283-284). Both pinealectomy and sham-operation reduce the differences in food-, total fluid-, water-, sweet- and bitter solution-intake; however, while pinealectomy raises the dark/light intake ratio of salty and sour fluids, sham-operation lowers both significantly.

Circadian taste variations are therefore apparently exerted by the pineal only for salty and sour taste. Salty solution-intake is in every case depressed both by pinealectomy and by sham-operation.

Sweet taste is better preferred by pinealectomized rats only during the dark period, while it is always chosen by sham-operated rats. Bitter taste is practically ever depressed only in sham-operated rats, while sour taste is the only taste that is not at all modified by both pinealectomy and sham-operation. The results point to some influence of the pineal on food intake and on taste preference. Yet some role may possibly be played also by surgical circulatory or nervous disturbance.