

**EVALUATION OF THE "GATE" - CONTROL
THEORY OF PAIN TRANSMISSION
AND PERCEPTION**

**A THESIS SUBMITTED
BY
ALI ISMAIL ALI EL SAYED**

**FOR
PARTIAL FULFILLMENT OF MASTER DEGREE IN NEUROLOGY
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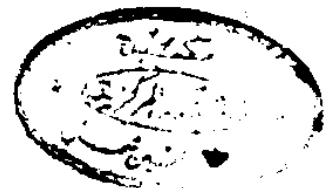
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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ



*To two men in my life;
prof. Dr. Said Ismail Ali ,And;
Mr. Hamdy Ismail Ali.
without them , I would not have
a useful existence
And to all who suffer from pain,
I affectionatly dedicate this work.*

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ABBREVIATIONS

ALC	Anterolateral Column.
CCK	Cholecystokinin.
CSF	Cerebrospinal Fluid.
DA	Dopamine.
DCS	Dorsal Column Stimulation.
DC	Dorsal Column.
DBS	Deep Brain Stimulation.
DLF	Dorsolateral Funiculus.
FC	Fasiculus Cuneatus.
FG	Fasiculus Gracilis.
GABA	Gamma amino butyric acid.
GIA	Glutamat induced analgesia.
HTC	High Threshold Cells.
5-HT	5-Hydroxy tryptamine.
5-HIAA	5-hydroxy indol acetic acid.
HSAN	Hereditary Sensory and autonomic neuropathy.
IT	Intra thecal.
LT cells	Low threshold cells.
LRF	Lateral reticular Formation.
LCN	Lateral Cervical nucleus.
LF	Lateral Funiculus.
NRM	Nucleus raphe magnus.
NRMC	Nucleus Reticularis magnocellularis.
NRO	Nucleus raphe obscurus.
NRPGC	Nucleus reticularis paragiganto cellularis.
NA	Noradrenalin.

NRF	Nucleus raphe pallidus
PG	Pituitary Gland.
PIS	Pituitary inhibitory system.
PCG	Postcentral gyrus.
PAG	Periaqueductal gray.
PGE s	Prostaglandins of the E Series.
PBR	Parabrachial region of pons.
PGI s	Prostaglandins of the I Series.
RF	Reticular Formation.
RVM	Rostral Ventromedial Medulla.
SG	Substantia Gelatinosa.
SPA	Stimulation – Produced analgesia.
SP	Substance P.
SDHN	Spinal dorsal horn neurones.
SOM	Somatostatin.
SRTT	Spino reticulo thalamic tract.
STT	Spinothalamic Tract.
TENS	Trans Cutaneous electric nerve stimulation.
VIP	Vasoactive Intestinal polypeptide.
WDR	Wide dynamic rang cells.