Biopeptides and Their Role

6HUJL\ 6WXSND

%XVLQHVV 2ZQHU 3UHYLWDOLFD DW 3UHYLWDOLFD *HUPDQ\

&RUUHVSRQGLQJ 6WXSND %XVLQHVV 2ZQHU 3UHYLWDOLFD DW 3UHYLWDOLFD *HUPDQ\ &RUUHVSRQGLQJ

5HFHLYHG 1RYHPEHU &RPSHWHG &RYHPEHU &RSXOLVKHG &RYHPEHU &RS\ULJKW 6WXSND 6 7KLV LV DQ RSHQ DFFHVV DUWLFOH GLVWULEXWHG XQGHU WKH WHUPV RI WKH &RPPRQV DWWULEXWLRQ GLVWULEXWLRQ DQG UHSURGXFWLRQ LQ DQ\ PHGLXP SURYLGHG WKH RULJLQDO DXWKRU DQG VRXUFH DU

&RPPHQWDU\

0DQ\ VFLHQWLVWV KDYH EHHQ DUJXLQJ IRU PDQ\ \HDUV WKDW IXQFWLRQDO GLVRUGHUV RI RUJDQV DQG RUJDQ V\VWHPV DUH UHODWHG WR WKH SHUPDQHQW LPSDLUHG SURWHLQ V\QWKHVLV /LIH H[LVWV RQO\ WKDQNV WR WZR PROHFXOHV '1$ FDUULHU RI JHQH LQIRUPDWLRQ 3HSWLGHV DFWLYDWH WKH V\QWKHVLV RI FHUWDLQ SURWHLQV

%RG\ FHOOV IRUP V\QWKHWLF SURWHLQV WKH FHOOV WR GHYHORS DQG SHUIRUP WKHLU IXQFWLRQV SURSHUO\ 3URWHLQV FRQWURO DO SURFHVVHV LQ WKH ERG\ 'XULQJ SURWHLQ PHWDEROLVP WKH SURWHLQV EUHDN GRZQ LQWR VPDOO IUDJPHQWV &HUWDLQ SHSWLGHV DFW DV PRROHFXOH PHVVHQJHUV &HUWDLQ SHSWLGHV DFWLYDWH WKH V\QWKHVLV RI SURWHLQ V\QWKHVLV LQ WKH FHOOV

,Q D \RXQJ ERG\ SURWHLQ ELRV\QWKHVLV ZRUNV YHU\ ZHOO RUJDQV DQG RUJDQ V\VWHPV ZRUN ZHOO :LWK LQFUHDVLQJ DJH EXW DOVR XQGHU QXWULWLRQDO VWUHVV IDFWRUV VXFK DV HQYLURQPHQWDO SRQQXWLRQ H[FHVVLYH SK\VLFDO DQG PHQWDO VWUHVV SRR SK\VLRORJLFDOO\ QRUPDO OHYHO RI UHJXODWRU\ VKRUW SHSWLGHV LQ WKH FHO GLHW UDGLDWLRQ H[WUHPH VSRUWV DQG RWKHUV WKH LQWHQVLW\ RI SURWH FHOO V\QWKHVLV LV UHGXFHG &HUWDLQ SHSWLGHV FDQ WKXV IRU WKH QRUPDO SHSWLGHV &HUWDLQ SHSWLGHV DFW DV QHXURWUDQVPLWWHUV &HUWDLQ FKDQJHV LQ JHQH ERG\ SK\VLRORJLFDOO\ QRUPDO &HUWDLQ SHSWLGHV DQG FHOO G\VIXQFWLRQ ,Q FRQGLWLRQ LV SHUPDQHQW LW PD\ HYHQ OHDG WR D FRPSOHWH ORVV RI FHO IXQFWLRQ VWXGLHV RQ ROG DQLPDOV PLFH UDWV PRQNH\V HWF LW KDV EHHQ VKRZQ WKDW WKH DGPLQLVWUDWLRQ RI ELRSHSWLGHV DQG WKXV QRUPDOLJDWLRQ RI WKH SK\VLRORJLFDOO\ QRUPDO SHSWLGH OHYHO LQ WKH FRUUHVSRQGLQJ WKH FHOOV WKH FRUUHVSRQGLQJ ERG\ IXQFWLRQV FDQ EH OLPLWV %XW WKLV ERGLWLRQ LV XVXDOO\ QRW QRO LQ ROG DQLPDOV ODVWLQJ LI WKH ERG\ QRW QRO UHFHLYH DGHTXDWH VXSSRUW &QGHU QFUHDVHG RIXHDVH ZLWK ERG\ IXQFWLRQV RI \RXQJ KHDOWK\ VVVWHPV FRQQDSVH DQG WKH ERG\ EHLLQV WR DJH HWHUHO\ UDSLGO\ 3QH PRXUVH DQG WLPH RI DJXH WKH DXWKRUV RI ELRSHSWLGHV DW ROH PRXUVH DQG WLVVXH V\VWHP WKH HQGRFULQH V\VWHP LV RQH RI WKH PRVW RUJDQV DQG WLVVXH V\VWHP WKH HQGRFULQH V\VWHP LV RQH RI WKH PRVW VHQVLWLYH}UVWRHPV WR LQFUHDVHG VWUHVV

HVHQGLQJ RYLGH D JRRG EDVLV DQG SHUVSHFWLYHV IRU WKH $FFRUGLQJ WR WKH FXUUHQW VWDWH RI LQIRUPDWLRQ WKHUDSHXWLF FRQVHQW LQWR SURPRWH DJLQ SURPRWH %LRSHSWLGHV DUH PRSRQHQW DQG EH FRXQWHUDFW DJLQ RU DGGLWLRQ DQG SURWHLQ IRRGV KRUPRQDO DDBHL RH rAD‡Y sy™ K\SR IXQFWLRQ RI WKH WK\URLG WKH KRUPRQH WKH RUJDQLVP ZKLFK LV FRQWUROOHG E\ FHOOXODU PHGLDWRUV WKH VR FDOO SHSWLGHV 3HSWLGH IXQFWLRQV LQFOXGH WKH H[FKDQJH RI LQIRUPDWLRQ EHV &y™}HQ URXJK WKH XVH RI ELRSHSWLGHV WKH DFFXPXODWLRQ RI WKH SRRO FRUUHVSRQGLQJ UHJXODWRU\ ELRSHSWLGHV WDNHV SODFH LQ WKH ERG\

H PRGHUQ WKHUDS\ FRQFHSWV WXUQ WKLV WKHRU\ RQ LWV KHDG &OLQLFDO VWXGLHV KDYH VKRZQ WKDW WKH VROH LQWDNH RI WK\URLG ELRSHSWLGHV FD LPSURYH WKH WK\URLG KDG D K\I 5p