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JAN 20 1964
 JAN 27 1964

THE AMINO ACID SEQUENCES OF HUMAN ALPHA HEMOGLOBIN

CRX 1/15/64

VUSPLAIENV ILLTYIVYLH LYGOYLGLUG RMFUSFPEEI EDPHFASH YSLOVIYHYI IVLALUENLV LHVAAMPNLU SLUSAUHLHI URVAPVAFIU
 USHCUUVEUL LHUPLGFEPL VHLSUAIFUL SVSEVUESIO R)

THE AMINO ACID SEQUENCES OF HUMAN BETA HEMOGLOBIN

CRX 1/27/64

Penly/1/27/64

VHUEPGGIGL VELUTYIVNV ALVYYGLUYR UUVVCPTEQR FFGSFYAUSF PALVMYNPIV ILHYIIVUYL FSAYULHAAA UIYEFLEUSG UHCAIUHVAP
 QAFRUUYNVU VCVULRNFIY GFEPHQLLO QIVVLYVLAL ULHIOH)

THE AMINO ACID SEQUENCES OF HUMAN GAMMA HEMOGLOBIN

CRX 1/27/64

YHFEGGAILE WESUTYIVNV GALYYGEUYR UUVVOPTQR FFAFYNUSS LSLWYNPIV ILHYIIVUES UYALWIHAAA UIYEFLEUSG UHCAIUHVAP
 GNFIUUNVU VEVULWHFYI GFEPGVQLST QIMVEYVLSL USSROH)

THE AMINO ACID SEQUENCES OF HUMAN DELTA HEMOGLOBIN

CRX 1/27/64

VHUEPGGIGL VELUTYIVNV ALVYYGLUYR UUVVCPTEQR FFGSFYAUSF PALVMYNPIV ILHYIIVUYL FSAYULHAAA UIYEFLEUSG UHCAIUHVAP
 QAFRUUYNVU VCVULRNFIY GFEPHQLLO QIVVLYVLAL ULHIOH)

→ G or (less probably)
 N at either 124 or
 125 instead of
 pro

JAN 20 1964

HUMAN MYOGLOBIN

YUSAGTGVUY ATVIVCPAWL YHYGUVARU FIYHPGEUGI FAIFIHUISG AGMILSGAUI YELVI EWUIIIYHHG USLWPILGSH LGIFIVPWID
HRAASGYUUF YGUSIHAYPF YLGLAYLMAI LUGUFRIALM SAGIGUYFYQ)

SPERM WHALE MYOGLOBIN

* CRX. STRAUS 1/28/64
E-mail J. CRX 1/20/64

VLCYGTSHVVWV TLIVQLAVLY HYGAWURUF ISHPGEUGIF ARFIHUIEGL GMILSGAUI HYVEI Y LUUIIIYHH GUGLIPULGS HLEIHWPWI
GUGFWSCLWH HVURHPYAFY LALGYHMAI LUGUFRIAWL LIQIGUYOYC)

EAM

EGG WHITE LYSCZYME CANFIELD JBC 8/63

IVFYRCGULL LMIRHYLAND RYOSUYNTVC LLIFGNSFNE QLENRNEAYS EAOYIUQWNS RTTCN YSRNUCNWPC SLUUSSAWEL SVNCLIIWVS
AYAYMNLTVL TRNRCIYEAV QLTWRYCRU)

BOVINE RIBONUCLEASE (QUOTED FROM FOX/COMP BIOCH P.203

IGELLLIFGR SESSNHMGLL SSSNOCNQMM ISRNUEIARC IPVNEFVHGS ULAVQLVCSQ INVLCIN N QCOQSOSEMS WEACRGSEYS IOPNLCOIEE
NLQIHWWVLC GYNPOVPVHF ALSV)

HUMAN HEART CYTOCHROME C SMITH JBC 8/63

YAVGIYIWF WMICSNCHEV GIYYIHIEYP NUHYUFYRIE YNLPYOSOEL LNINIYWWTY GAEUMGUGN PIIOWPYEIM WFLYWIIIGG RLAUWLOUII
LENG)

HORSE CYTOCHROME JBC 8/63 SMITH

YAVGIYIWF VQICLNCHAV GIYYIHIEYP NUHYUFYRIE YNLPYFEDEA LNINIYWTY GAEUMGUGN PIIOWPYEIM WFLYWIIIGG RGAUWLOUII
LENG)

SHEEP RIBONUCLEASE QUOTED FROM FOX

IGSLLLIFGR SESSNHMGLL SSSNOCNQMM ISRNEGARC IPVNEFVHGS ULAVQLVCSQ INVLCINYN QCOQSOSEMS WEACRGSEYS IOPNLCOIEE
NLQIHWWVLC GYNPOVPVHF ALSV)

Handwritten notes on the right margin including "L. St.", "same", "E.3", and a vertical stamp "RESEARCH FOR THE SPERM WHALE" with a left-pointing arrow.

JAN 27 1964

JAN 20 1964

HUMAN MYOGLOBIN

YUSAGTGVUY ATVIVCPAWL YHYGUVAWRU FIYHPGEUGI FAIFIHUISG AGMILSGAUI YELVHULUYU EWUIIIYHHG USLWPILGSH LGIFIVPWID
HRAASGYUUF YGUSIHAYPF YLGLAYLMAI LUGUFRIALM SAIGUYFYQ)

SPERM WHALE MYOGLOBIN

Emil Z. CRX 1/20/64

VUYGTGVUIL TLIVQLAVLY HYGAUWRUF ISHPGEUGIF ARFIHUIEGL GMILSGUAIH HYVEVUELUY LUUIIIYHH GUGLIPULQS HLEIHIWPWI
CUGFWSCLWH HVURHPYAFY LALGYHMAI LUGUFRIAWL LIOIGUYOYC)

Emil Z.

EGG WHITE LYSCZYME CANFIELD JBC 8/63

CRX 1/28/64

IVFYRCGULL LMIRHYLANO RYDSUYNTVC LLIFGSNFNE QLENRNEAYS EADYUQWNS RTTCNAYREP YSRNUCNWPC SLUUSSAWEL SVNCLIIWVS
AYAYMNLTVL TRNRCIYEAV QLTWRYCRU)

BOVINE RIBONUCLEASE (QUOTED FROM FOX/COMP BIOCH P.203

IGELLIFGR SESSNHMGLL SSSNOCNQMM ISRNUEIARC IPVNEFVHGS ULAVQLVCSQ INVLCINYEN CQOQSOSEMS WEACRGSEYS IOPNLCOIEE
NLQIHWVLC GYNPOVPVHF ALSV)

HUMAN HEART CYTOCHROME C SMITH JBC 8/63

YAVGIYIWF WMICSNCHEV GIYYIHIEYP NUHYUFYRIE YNLPYOSOEL LNINIYWWTY GAEUMGOUN PIIOWPYEIM WFLYWIIIGG RLAUWLQUII
LENG)

HORSE CYTOCHROME JBC 8/63 SMITH

YAVGIYIWF VQICLNCHV GIYYIHIEYP NUHYUFYRIE YNLPYFEOEA LNINIYWTY GAEUMGOUN PIIOWPYEIM WFLYWIIIGG RGAUWLQUII
LENG)

SHEEP RIBONUCLEASE QUOTED FROM FOX

IGSLLLIFGR SESSNHMGLL SSSNOCNQMM ISRNUEGARC IPVNEFVHGS ULAVQLVCSQ INVLCINYEN CQOQSOSEMS WEACRGSEYS IOPNLCOIEE
NLQIHWVLC GYNPOVPVHF ALSV)

*Dear Josh:
only one more
error. Every-
thing checked
against corres-
ponding references*

*□ = sequence
uncertain*

*Amittes
Amittes*

SP-400 ENGINEERED FOR HIGH SPEED PRINTERS 14111 B