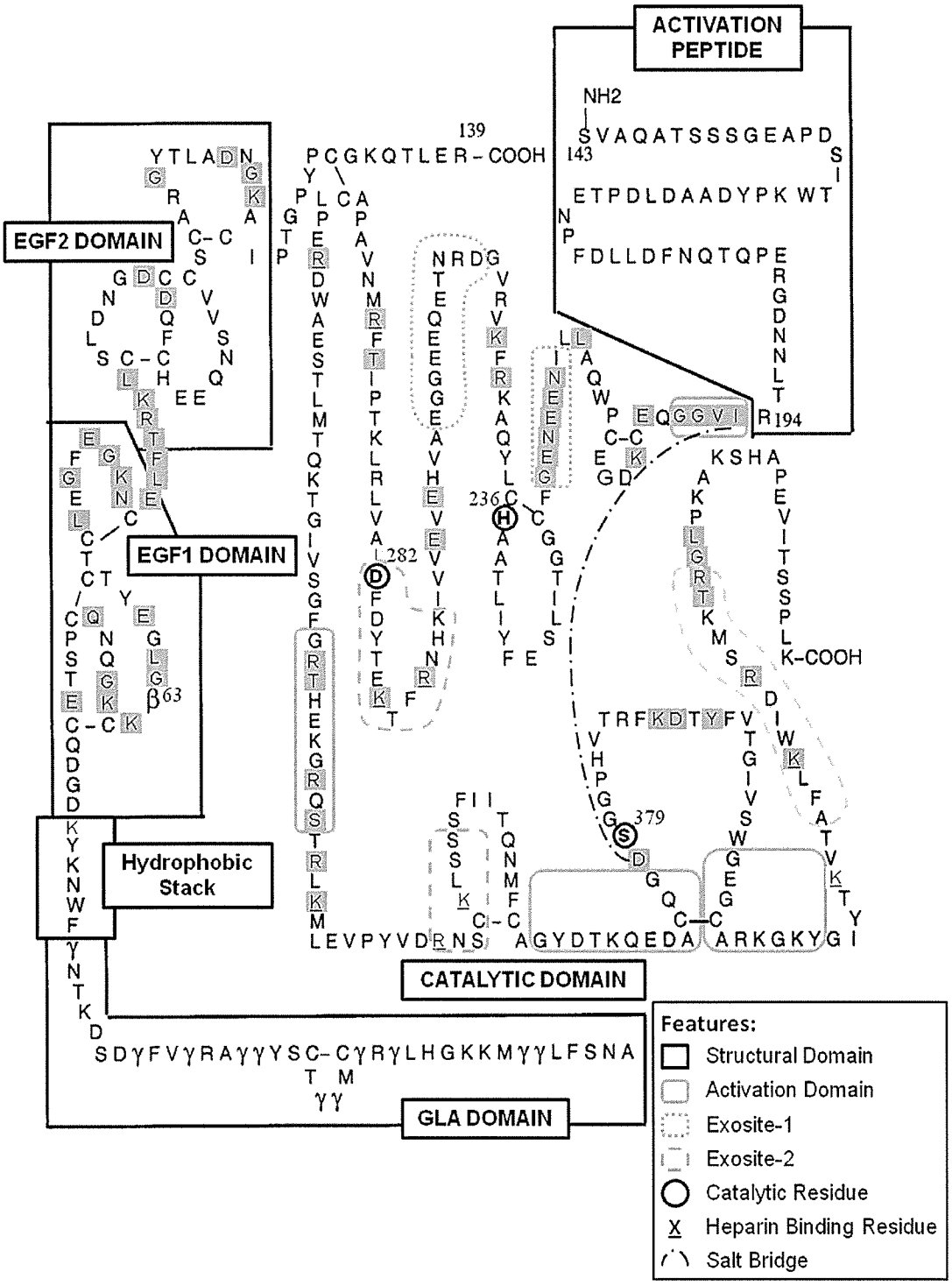

ACTIVATION PEPTIDE
NH2
SVAQATSSSGEAPD
ETPDLDAADYPK WT
FDLLDFNQTQPE
EGDNNLT
R194
EGF2 DOMAIN
EGF1 DOMAIN
Hydrophobic Stack
CATALYTIC DOMAIN
GLA DOMAIN
K-COOH
Features:
Structural Domain
Activation Domain
Exosite-1
Exosite-2
Catalytic Residue
Heparin Binding Residue
Salt Bridge

FIGURE 1

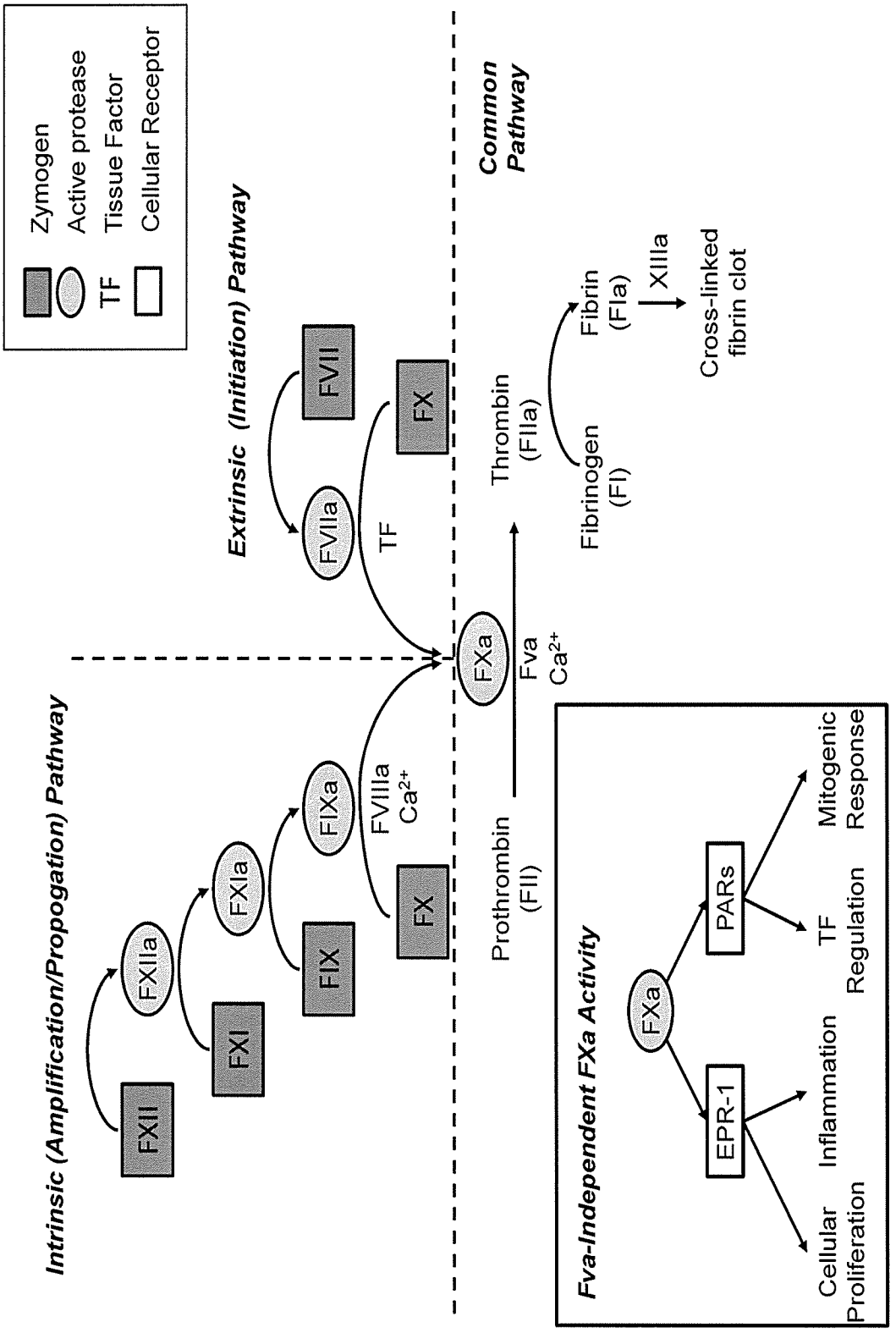

Zymogen
Active protease
TF Tissue Factor
Cellular Receptor
Intrinsic (Amplification/Propogation) Pathway
Extrinsic (Initiation) Pathway
Common Pathway
FXII
FXIIa
FXI
FXIa
FIX
FIXa
FVIIIa
Ca2+
FX
FVII
FVIIa
TF
FX
FXa
Fva
Ca2+
Prothrombin
(FII)
Thrombin
(FIIa)
Fibrinogen
(FI)
Fibrin
(Fia)
XIIIa
Cross-linked
fibrin clot
Fva-Independent FXa Activity
FXa
EPR-1
PARs
Cellular Proliferation
Inflammation
TF Regulation
Mitogenic Response

FIGURE 2A

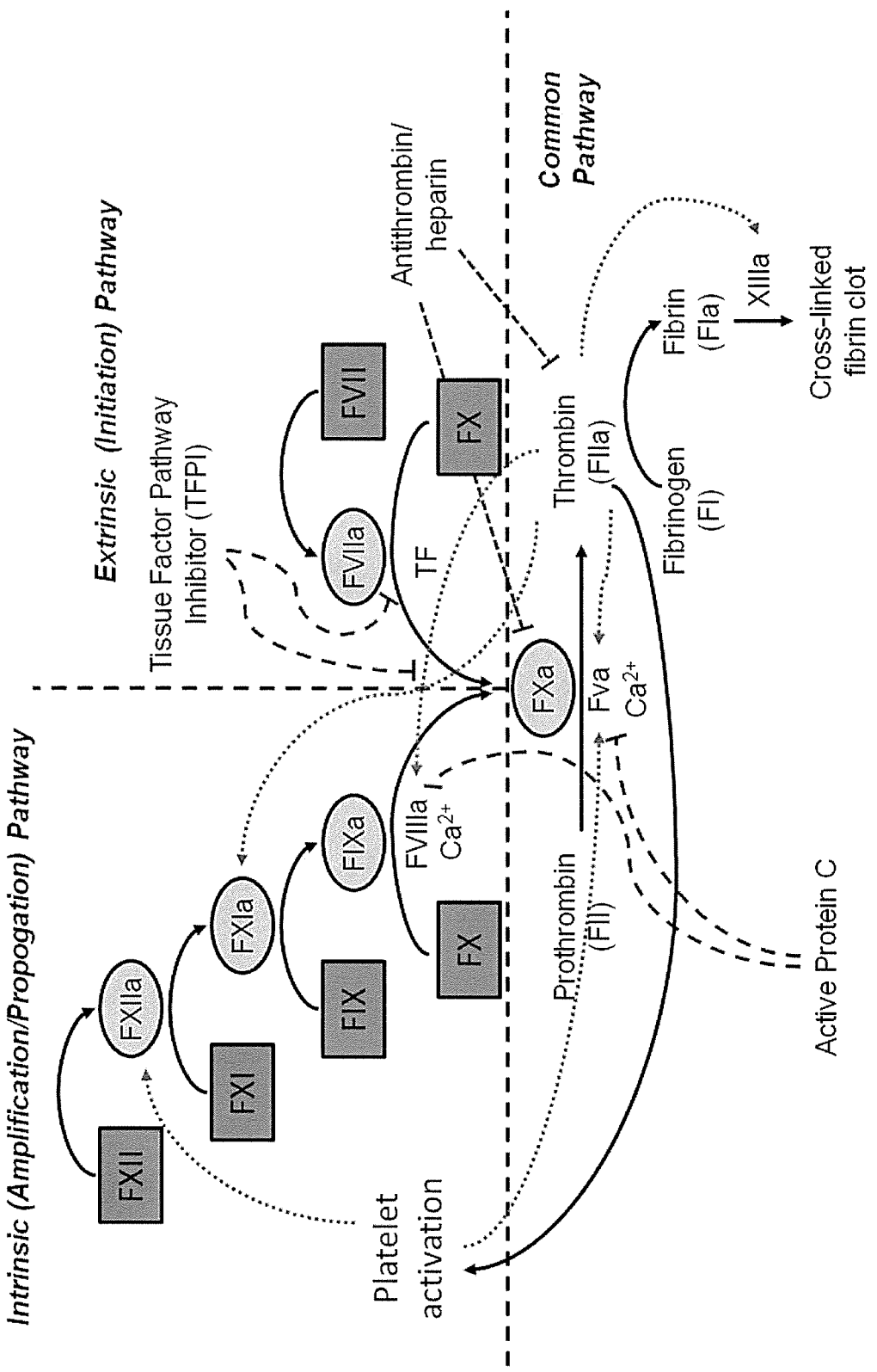

Intrinsic (Amplification/Propogation) Pathway
Extrinsic (Initiation) Pathway
Common Pathway
FXII
FXIIa
FXI
FXIa
FIX
FIXa
FVIII
FVIIIa
Ca2+
FX
FVII
FVIIa
TF
Tissue Factor Pathway Inhibitor (TFPI)
Antithrombin/ heparin
FX
FXa
Fva
Ca2+
Prothrombin (FII)
Thrombin (FIIa)
Fibrinogen (FI)
Fibrin (Fia)
XIIIa
Cross-linked fibrin clot
Active Protein C
Platelet activation

FIGURE 2B

FIGURE 3A

```
human   ANSFLEEMKKGHLERECMEETCSYEEAREVFEDSDKTNEFWNKYKDGDQCETSPCQNQGK
Gibbon  ANSFLEEMKKGNLERECMEETCSYEEAREVFEDSDKTNEFWNKYKDGDQCETSPCQNEGK
        ***********:**********************************************:**

human   CKDGLGEYTCTCLEGFEGKNCELFTRKLCSLDNGDCDQFCHEEQNSVVCSCARGYTLADN
Gibbon  CKDGLGEYTCTCLEGFEGKNCELFTRKLCSLDNGDCDQFCHEEQNSVVCSCARGYTLADN
        ************************************************************

human   GKACIPTGPYPCGKQTLERRKRSVAQATSSSGEAPDSITWKPYDAADLDPTENPFDLLDF
Gibbon  GKACIPTGPYPCGKQTLERRKRSVAQATNSSGEGPDSITWKPYDAADLDPTENPFDLLDF
        ****************************.****.**************************

human   NQTQPERGDNNLTRIVGGQECKDGECPWQALLINEENEGFCGGTILSEFYILTAAHCLYQ
Gibbon  NQTQPETGDNNLVRIVGGRECKDGECPWQALLINEENEGFCGGTILSEFYILTAAHCLYQ
        ****** ***** ***** :****************************************

human   AKRFKVRVGDRNTEQEEGGEAVHEVEVVIKHNRFTKETYDFDIAVLRLKTPITFRMNVAP
Gibbon  AKRFKVRVGDRNTEQEEGGEAVHEVEVVIKHNRFTKETYDFDIAVLRLKTPITFRMNVAP
        ************************************************************

human   ACLPERDWAESTLMTQKTGIVSGFGRTHEKGRQSTRLKMLEVPYVDRNSCKLSSSFIITQ
Gibbon  ACLPERDWAESTLMTQKTGIVSGFGRTHEKGRQSTRLKMLEVPYVDRNSCKLSSSFIITQ
        ************************************************************

human   NMFCAGYDTKQEDACQGDSGGPHVTRFKDTYFVTGIVSWGEGCARKGKYGIYTKVTAFLK
Gibbon  NMFCAGYHARQEDACQGDSGGPHVTRFKDTYFVTGIVSWGEGCARKGKYGIYTKVTAFLK
        *******.::**************************************************

human   WIDRSMKTRGLPKAKSHAPEVITSSPLK
Gibbon  WIDRSMKTRGLPKAESHAPEVITPSPLK
        **************:********.****
```

FIGURE 3B

```
human          ANSFLEEMKKGHLERECMEETCSYEEAREVFEDSDKTNEFWNKYKDGDQCETSPCQNQGK
OliveBaboon    SNSFLEELKKGNLERECMEETCSYEEAREVFEDIDKTNEFWNKYKDGDQCETSPCQNEGK
               :******:***:********************** ************************:**

human          CKDGLGEYTCTCLEGFEGKNCELFTRKLCSLDNGDCDQFCHEEQNSVVCSCARGYTLADN
OliveBaboon    CRDGLGEYTCTCLEGFEGKNCELFTRKLCSLDNGDCDQFCHEEQNSVVCSCARGYTLADN
               *:************************************************************

human          GKACIPTGPYPCGKQTLERRKRSVAQATSSSGEAPDSITWKPYDAADLDPTENPFDLLDF
OliveBaboon    GKACIPTGPYPCGKQTLERRKRSAAQATNSSGEASDSIIWKPDDAADLDATENPFDLLDF
               ************************.****.*****.*** *** ******.**********

human          NQTQPERGDNNLTRIVGGQECKDGECPWQALLINEENEGFCGGTILSEFYILTAAHCLYQ
OliveBaboon    NQTQPERGDNNLIRIVGGRECENGECPWQALLINEENEGFCGGTILSEFYILTAAHCLYQ
               ************ *****:**::************************************

human          AKRFKVRVGDRNTEQEEGGEAVHEVEVVIKHNRFTKETYDFDIAVLRLKTPITFRMNVAP
OliveBaboon    AKRFKVRVGDRDMEQEEGGEAVHEVEVIIKHNRFTKETYDFDIAVLRLKSPITFRMNVAP
               ***********: **************:**********************:**********

human          ACLPERDWAESTLMTQKTGIVSGFGRTHEKGRQSTRLKMLEVPYVDRNSCKLSSSFIITQ
OliveBaboon    ACLPERDWAESTLMTQKTGIVSGFGRTHEKGRQSTRLKMLEVPYVDRNSCKLSSSFIITQ
               ************************************************************

human          NMFCAGYDTKQEDACQGDSGGPHVTRFKDTYFVTGIVSWGEGCARKGKYGIYTKVTAFLK
OliveBaboon    NMFCAGYHAKQEDACQGDSGGPHVTRFKDTYFVTGIVSWGEGCARKGKYGIYTKVTAFLK
               *******.:****************************************************

human          WIDRSMKTRGLPKAKSHAPEVITSSPLK
OliveBaboon    WIDRSMKTRGLPKAESRAPEVSTSSPLK
               **************:*:**** ******
```

FIGURE 3C

```
human          ANSFLEEMKKGHLERECMEETCSYEEAREVFEDSDKTNEFWNKYKDGDQCETSPCQNQGK
RhesusMonkey   SNSFLEEMKKGNLERECMEETCSYEEAREVLEDSDKTNEFWNKYKDGDQCETSPCQNEGK
               :**********:**********:**********:**********:**********:**

human          CKDGLGEYTCTCLEGFEGKNCELFTRKLCSLDNGDCDQFCHEEQNSVVCSCARGYTLADN
RhesusMonkey   CRDGLGEYTCTCLEGFEGKNCELFTRKLCSLDNGECDQFCHEEQNSVVCSCARGYTLADN
               *:**********:**********:**********:**********:**********:**

human          GKACIPTGPYPCGKQTLERRKRSVAQATSSSGEAPDSITWKPYDAADLDPTENPFDLLDF
RhesusMonkey   GKACIPTGPYPCGKQTLERRKRSAAQATNSSGEAPDNIIWKPDDAADLDATENPFDLLDF
               **********.*****.********.* *** *******.**********.******

human          NQTQPERGDNNLTRIVGGQECKDGECPWQALLINEENEGFCGGTILSEFYILTAAHCLYQ
RhesusMonkey   NQTQPERGDNNLIRIVGGRECENGECPWQALLINEENEGFCGGTILSEFYILTAAHCLYQ
               **********:**:**********:**********:**********:**********

human          AKRFKVRVGDRNTEQEEGGEAVHEVEVVIKHNRFTKETYDFDIAVLRLKTPITFRMNVAP
RhesusMonkey   AKRFKVRVGDRDMEQEEGGEAVHEVEVIIKHNRFTKETYDFDIAVLRLKSPITFRMNVAP
               **********: **********:**********:**********:**********:**

human          ACLPERDWAESTLMTQKTGIVSGFGRTHEKGRQSTRLKMLEVPYVDRNSCKLSSSFIITQ
RhesusMonkey   ACLPERDWAESTLMTQKTGIVSGFGRTHEKGRQSTRLKMLEVPYVDRNSCKLSSSFIITQ
               **********:**********:**********:**********:**********:**

human          NMFCAGYDTKQEDACQGDSGGPHVTRFKDTYFVTGIVSWGEGCARKGKYGIYTKVTAFLK
RhesusMonkey   NMFCAGYHAKQEDACQGDSGGPHVTRFKDTYFVTGIVSWGEGCARKGKYGIYTKVTAFLK
               ********.:**********:**********:**********:**********:**

human          WIDRSMKTRGLPKAKSHAPEVITSSPLK
RhesusMonkey   WIDRSMKTRGLPKAESRAPEASTSSPLK
               **********:*:***.  ******
```

FIGURE 3D

```
human          ANSFLEEMKKGHLERECMEETCSYEEAREVFEDSDKTNEFWNKYKDGDQCETSPCQNQGK
DuskyTitiMonkey ANSILEELKKGNLERECMEETCSYEEAREVFEDSDQTNEFWNKYKDGDQCESDPCQNQGK
                ***:****:****:**********************:**********:.*******

human          CKDGLGEYTCTCLEGFEGKNCELFTRKLCSLDNGDCDQFCHEEQNSVVCSCARGYTLADN
DuskyTitiMonkey CKDGLGQYTCTCLEGFEGKNCELFTRKLCSLDNGDCDQFCHEEQNSVVCSCASGYVLADD
                *******:************************************ **.***:

human          GKACIPTGPYPCGKQTLERRKRSVAQATSSSGEAPDSITWKPYDAADLDPTENPFDLLDF
DuskyTitiMonkey GKACIPTGPYPCGKLTLERRKRAAAQATHRRGETPGTITRPQHNTSDPDPTENPFDLLGF
                ********************:.*****   **:*.:**    :::::* **********.*

human          NQTQPERGDNNLTRIVGGQECKDGECPWQALLINEENEGFCGGTILSEFYILTAAHCLYQ
DuskyTitiMonkey NQTQPEWEESDLVRIVGGRDCKDGECPWQALLINEENEGFCGGTILSEFHVLTAAHCLHQ
                ******* :.:*.******:**********************:**********:*

AKRFKVRVGDRNTEQEEGGEAVHEVEVVIKHNRFTKETYDFDIAVLRLKTPITFRMNVAP
AKRFKVRVGDRNTEKEEGGETVHEVEVIIKHNRFSIETYDFDITVLRLKTPITFRMNVAP
*********************:*******:********** **********************

ACLPERDWAESTLMTQKTGIVSGFGRTHEKGRQSTRLKMLEVPYVDRNSCKLSSSFIITQ
ACLPARDWAESTLMTQKTGIVSGFGRTHEKGRQSTTLKILEVPYVDRNTCKLSSSFTITQ
**** ************************ **:**********:********** ***

NMFCAGYDTKQEDACQGDSGGPHVTRFKDTYFVTGIVSWGEGCARKGKYGIYTKVTAFLK
NMFCAGYEARQEDACQGDSGGPHVTRFKDTYFVTGIVSWGEGCARKGKYGIYTKVSGFLK
*********:::**************************************:.***

WIDRSMKTRGLPKAKSHAPEVITSSPLK
WIDRSMKTRGVPKAESHVPGVNTSSPLK
**********:****:**.* * ******
```

FIGURE 3E

```
human           ANSFLEEMKKGHLERECMEETCSYEEAREVFEDSDKTNEFWNKYKDGDQCETSPCQNQGK
AfricanElephant ANSFLEEMKQGNLERECMEETCSFEEAREVFEDDVKTNEFWNRYKDGDQCESNPCQNQGK
                *********:*:**********:*********. *******:********:.*******

human           CKDGLGEYTCTCLEGFEGKNCELFTRKLCSLDNGDCDQFCHEEQNSVVCSCARGYTLADN
AfricanElephant CQDGLGEYTCTCLEGFEGKNCELTIRELCSLDNGDCDQFCNEERNSVVCSCAAGYTLGDN
                *:**********************  *:**************:**:******** ****.**

human           GKACIPTGPYPCGKQTLERRKRSVAQATSSSGEAPDSITWKPYDAADLDPTENPFDLLDF
AfricanElephant GKSCISTEPFPCGKLTMGRNKRSLAQANNVSGSPPETSTQKQYGLDDLAPTENPVNLLNL
                **:**.* *:**** *: *.***:***.. **..*:: * * *.  ** *****.:**::

human           NQTQPERGDNNLTRIVGGQECKDGECPWQALLINEENEGFCGGTILSEFYILTAAHCLYQ
AfricanElephant NQEFPEQDTSDLVRIVGGRDCKEGECPWQALLVNEENEGFCGGTILNEYYILTAAHCLHQ
                **  **:. .:*.*****::**:*********:*************.*:*********:*

human           AKRFKVRVGDRNTEQEEGGEAVHEVEVVIKHNRFTKETYDFDIAVLRLKTPITFRMNVAP
AfricanElephant AKRFKVRVGDRNTEKEEGNEMAHEVEIILKHNKFVRETYDFDIAVIKLKTPITFRMNVAP
                **************:***.* .****:::***:*.:*********::*************

human           ACLPERDWAESTLMTQKTGIVSGFGRTHEKGRQSTRLKMLEVPYVDRNSCKLSSSFIITQ
AfricanElephant ACLPEKDWAESTLMTQKTGIVSGFGRTHEKGRASTILKMLEVPYVDRNTCKLSSSFTITQ
                *****:*************************** ** ************:******* ***

human           NMFCAGYDTKQEDACQGDSGGPHVTRFKDTYFVTGIVSWGEGCARKGKYGIYTKVTAFLK
AfricanElephant NMFCAGYDSKPEDACQGDSGGPHVTRFKDTYFVTGIVSWGEGCARKGKYGVYTKVTSFLK
                ********:* ****************************************:*****:***

human           WIDRSMKTRGLPKAKSHAPEVITSSPLK
AfricanElephant WIDRCMKTKAGVHAQAP-----------
                ****.***:.  :*::
```

FIGURE 3F

```
human           ANSFLEEMKKGHLERECMEETCSYEEAREVFEDSDKTNEFWNKYKDGDQCETSPCQNQGK
Mouse           ANSFFEEFKKGNLERECMEEICSYEEVREIFEDDEKTKEYWTKYKDGDQCESSPCQNQGA
                ****:**:***:******** *****.**:***.:**:*:*.*********:*******

human           CKDGLGEYTCTCLEGFEGKNCELFTRKLCSLDNGDCDQFCHEEQNSVVCSCARGYTLADN
Mouse           CRDGIGGYTCTCSEGFEGKNCELFVRKLCRLDNGDCDQFCREEQNSVVCSCASGYFLGND
                *:**:* ***** **********.**** **********:********** ** *.::

human           GKACIPTGPYPCGKQTLERRKRSVAQATSSSGEAPDSITWKPYDAADLDPTENPFDLLDF
Mouse           GKSCISTAPFPCGKITTGRRKRSVALNTSDS---ELDLEDALLDEDFLSPTENPIELLNL
                **:**.*.*:**** *  ******* **.*     .:     *   *.*****::**::

human           NQTQPERGDNNLTRIVGGQECKDGECPWQALLINEENEGFCGGTILSEFYILTAAHCLYQ
Mouse           NETQPERSSDDLVRIVGGRECKDGECPWQALLINEDNEGFCGGTILNEFYILTAAHCLHQ

                *:*****.::*.*****:**********:**********.***********:*

human           AKRFKVRVGDRNTEQEEGGEAVHEVEVVIKHNRFTKETYDFDIAVLRLKTPITFRMNVAP
Mouse           ARRFKVRVGDRNTEKEEGNEMVHEVDVVIKHNKFQRDTYDYDIAVLRLKTPITFRMNVAP
                *:************:***.* ****:******:* ::***:********************

human           ACLPERDWAESTLMTQKTGIVSGFGRTHEKGRQSTRLKMLEVPYVDRNSCKLSSSFIITQ
Mouse           ACLPQKDWAESTLMTQKTGIVSGFGRTHEKGRQSNILKMLEVPYVDRNTCKLSTSFSITQ
                ****::****************************. ************:****:** ***

human           NMFCAGYDTKQEDACQGDSGGPHVTRFKDTYFVTGIVSWGEGCARKGKYGIYTKVTAFLK
Mouse           NMFCAGYEAKLEDACQGDSGGPHVTRFKNTYYVTGIVSWGEGCARKGKYGIYTKVTTFLK
                *******::* ******************:**:*************************:***

human           WIDRSMKTRGLPKAKSHAPEVITSSPLK
Mouse           WIDRSMKARVGPTAETPRTAGPPN----
                *******:*  *.*::  .   ..
```

FIGURE 3G

```
human   ANSFLEEMKKGHLERECMEETCSYEEAREVFEDSDKTNEFWNKYKDGDQCETSPCQNQGK
rabbit  ANSFLEELKKGNLERECMEENCSYEEALEVFEDREKTNEFWNKYVDGDQCESNPCQNQGT
        ********:****:********** ***** :********** ******* :******.

human   CKDGLGEYTCTCLEGFEGKNCELFTRKLCSLDNGDCDQFCHEEQNSVVCSCARGYTLADN
rabbit  CKDGLGMYTCSCVEGYEGQDCEPVTRKLCSLDNGGCDQFCKEEENSVLCSCASGYTLGDN
        ******* ***:*:**:**:*:** .********** ******:***:***:***** ****.**

human   GKACIPTGPYPCGKQTLERRKRSVAQATSSSGEAPDSITWKPYDAADLDPTENPFDLLDF
rabbit  GKSCISTELFPCGKVTLGRWRR--SPATNSSEGPPEAPGPEQQDDGNLTATENPFNLLDS
        **:**.*  :***** ** * :*  : **.**  .*::   :  * .:* .******:***

human   NQTQPERGDNNLTRIVGGQECKDGECPWQAILINEENEGFCGGTILSEFYILTAAHCLYQ
rabbit  PEPPPEDDSSSLVRIVGGQDCRDGECPWQALLVNEENEGFCGGTILSEYHVLTAAHCLHQ

        :. ** ....*.*******:*:********************::*********:*

human   AKRFKVRVGDRNTEQEEGGEAVHEVEVVIKHNRFTKETYDFDIAVLRLKTPITFRMNVAP
rabbit  AKRFKVRVGDRDTEHEEGNEETHEVEVVVKHNRFVKETYDFDIAVLRLKTPITFRRNVAP
        **********:**:***.* .*******:*****.********************* ****

human   ACLPERDWAESTLMTQKTGIVSGFGRTHEKGRQSTRLKMLEVPYVDRNSCKLSSSFIITQ
rabbit  ACLPQKDWAESTLMAQKTGIVSGFGRTHEMGRLSTTLKMLEVPYVDRNSCKRSSSFTITQ
        *****:*********:********************** ** ** ********************* **** ***

human   NMFCAGYDTKQEDACQGDSGGPHVTRFKDTYFVTGIVSWGEGCARKGKYGIYTKVTAFLK
rabbit  NMFCAGYDARPEDACQGDSGGPHVTRFRDTYFVTGIVSWGEGCARKGKFGVYTKVSNFLK
        **********:: ********************************:*:*****: ***

human   WIDRSMKTRGLPKAKSHAPEVITSSPLK----
rabbit  WIEKSMRARAVPVAEAAGTPGPTQPTIKGSPS
        **::**::*.:* *:: ..   *...:*
```

FIGURE 3H

```
human   ANSFLEEMKKGHLERECMEETCSYEEAREVFEDSDKTNEFWNKYKDGDQCETSPCQNQGK
rat     ANSFFEEIKKGNLERECVEEICSFEEAREVFEDNEKTTEFWNKYEDGDQCESSPCQNQGE
        ****:***:****:******:** **:**********.:**.*******:********:

human   CKDGLGEYTCTCLEGFEGKNCELFTRKLCSLDNGDCDQFCHEEQNSVVCSCARGYTLADN
rat     CRDGLGSYTCTCTEGFEGKNCELFVRKLCSLDNGDCDQFCREEQNSVVCSCAKGYFLGND
        *:*****.***** ********************.**********:********:** *.::

human   GKACIPTGPYPCGKQTLERRKRSVAQATSSSGEAPDSITWKPYDAADLDPTENPFDLLDF
rat     GKSCLSTAPFPCGKTNKGRAKRSVALNTSNSEPDPEDLMP---DADILYPTESPSELLNL
        **:*:. .*.*:***** .  * ****** **.*   *:.:    **  * ***.* :***::

human   NQTQPERGDNNLTRIVGGQECKDGECPWQALLIN-EENEGFCGGTILSEFYILTAAHCLY
rat     NKTEPEANSDDVIRIVGGQECKRGECPWQALLFSDEETDGFCGGTILNEFYILTAAHCLH
        *:*:** .:::: ********** **********:. **.:********** ***********:

human   QAKRFKVRVGDRNTEQEEGGEAVHEVEVVIKHNRFTKETYDFDIAVLRLKTPITFRMNVA
rat     QAKRFKVRVGDLNTEQEDGGEMVHEVDMIIKHNKFQRDTYDFDIAMLRLKTPITFRENVA
        ********** ******:*** ****:::*****:* ::*********:********** ***

human   PACLPERDWAESTLMTQKTGIVSGFGRTHEKGRQSTRLKMLEVPYVDRNSCKLSSSFIIT
rat     PACLPQKDWAEATLMTQKTGIVSGFGRTHEKGRQSKVLKMMEVPYVDRNTCRLSTSFSIT
        ******::*****:********************. ****:**********:*:**:** **

human   QNMFCAGYDTKQEDACQGDSGGPHVTRFKDTYFVTGIVSWGEGCARKGKYGIYTKVTAFL
rat     QNMFCAGYDAKQEDACQGDSGGPHVTRFKDTYFVTGIVSWGEGCARKGKYGIYTKVTAFL
        **********:**********************************************

human   KWIDRSMKTRGLPKAKSHAPEVITSSPLK
rat     KWIDRSMKARVGPTSETPRLTHPPY----
        **********:*  *.:::        .
```

FIGURE 3I

```
human   ANSFLEEMKKGHLERECMEETCSYEEAREVFEDSDKTNEFWNKYKDGDQCETSPCQNQGK
dog     ANSFLEEMKKGNLERECMEETCSFEEAREVFEDTAKTMEFWNKYKDGDQCESSPCQNQGQ
        ***********:***********:*********: ** *************:*******:

human   CKDGLGEYTCTCLEGFEGKNCELFTRKLCSLDNGDCDQFCHEEQNSVVCSCARGYTLADN
dog     CKDGLLEYSCICLEGYEGKNCELSTRKLCSVDNGDCDQFCREEQSSVVCSCASGYILGDN
        ***** **:* ****:******* ******:*********:***.******* ** *.**

human   GKACIPTGPYPCGKQTLERRKRSVAQATSSSGE---APDSITWKPYDAADLDPTENPFDL
dog     GKSCISTEPFPCGKTTVGRRKRATETAPSSEAPPDAEEEAGMLEQYDPGDLSPTQSTMFL
        **:**.* *:**** *: ****:.  *.**..      ::   : **..**.**:..: *

human   LDFNQTQ--PERGDNNLTRIVGGQECKDGECPWQALLINEENEGFCGGTILSEFYILTAA
dog     LPFNQTNSDPDEDASGLVRIVGGQDCRDGECPWQALLINEENEGFCGGTILSEYYILTAA
        * ****:  *:.. ..*.******:*:****************************:******

human   HCLYQAKRFKVRVGDRNTEQEEGGEAVHEVEVVIKHNRFTKETYDFDIAVLRLKTPITFR
dog     HCLQQAKKFTVRVGERDTDKEEGNEVAHEVEMIIKHNKFVRETYDFDIAVIKLKTPITFR

        *** ***:*.****:*:*::***.*..****::****:*.:*********::********

human   MNVAPACLPERDWAESTLMTQKTGIVSGFGRTHEKGRQSTRLKMLEVPYVDRNSCKLSSS
dog     MNVAPACLPQKDWAESTLMTQKTGIVSGFGKTHEKGRPSTTLKMMEVPYVDRNTCKLSSS
        *********::*******************:****** ** ***:********:******

human   FIITQNMFCAGYDTKQEDACQGDSGGPHVTRFKDTYFVTGIVSWGEGCARKGKYGIYTKV
dog     FSITQNMFCAGYDSKPEDACQGDSGGPHVTRFKDTYFVTGIVSWGEGCARKGKYGIYTKV
        * ***********:* ******************************************

human   TAFLKWIDRSMKTRG----LPKAKSHAPEVITSSPLK--
dog     TNFLKWIDRSMKARAGWGGFFGKKERPPSLWADPPPGPC
        * **********:*.    :   *.:.*.: :..*
```

FIGURE 3J

```
human   ANSFLEEMKKGHLERECMEETCSYEEAREVFEDSDKTNEFWNKYKDGDQCETSPCQNQGK
I195L   ANSFLEEMKKGHLERECMEETCSYEEAREVFEDSDKTNEFWNKYKDGDQCETSPCQNQGK
        ************************************************************

human   CKDGLGEYTCTCLEGFEGKNCELFTRKLCSLDNGDCDQFCHEEQNSVVCSCARGYTLADN
I195L   CKDGLGEYTCTCLEGFEGKNCELFTRKLCSLDNGDCDQFCHEEQNSVVCSCARGYTLADN
        ************************************************************

human   GKACIPTGPYPCGKQTLERRKRSVAQATSSSGEAPDSITWKPYDAADLDPTENPFDLLDF
I195L   GKACIPTGPYPCGKQTLERRKRSVAQATSSSGEAPDSITWKPYDAADLDPTENPFDLLDF
        ************************************************************

human   NQTQPERGDNNLTRIVGGQECKDGECPWQALLINEENEGFCGGTILSEFYILTAAHCLYQ
I195L   NQTQPERGDNNLTRLVGGQECKDGECPWQALLINEENEGFCGGTILSEFYILTAAHCLYQ
        ************************:***********************************

human   AKRFKVRVGDRNTEQEEGGEAVHEVEVVIKHNRFTKETYDFDIAVLRLKTPITFRMNVAP
I195L   AKRFKVRVGDRNTEQEEGGEAVHEVEVVIKHNRFTKETYDFDIAVLRLKTPITFRMNVAP
        ************************************************************

human   ACLPERDWAESTLMTQKTGIVSGFGRTHEKGRQSTRLKMLEVPYVDRNSCKLSSSFIITQ
I195L   ACLPERDWAESTLMTQKTGIVSGFGRTHEKGRQSTRLKMLEVPYVDRNSCKLSSSFIITQ
        ************************************************************

human   NMFCAGYDTKQEDACQGDSGGPHVTRFKDTYFVTGIVSWGEGCARKGKYGIYTKVTAFLK
I195L   NMFCAGYDTKQEDACQGDSGGPHVTRFKDTYFVTGIVSWGEGCARKGKYGIYTKVTAFLK
        ************************************************************

human   WIDRSMKTRGLPKAKSHAPEVITSSPLK
I195L   WIDRSMKTRGLPKAKSHAPEVITSSPLK
        ****************************
```

FIGURE 3K

```
human           ANSFLEEMKKGHLERECMEETCSYEEAREVFEDSDKTNEFWNKYKDGDQCETSPCQNQGK
Ap152T          ANSFLEEMKKGHLERECMEETCSYEEAREVFEDSDKTNEFWNKYKDGDQCETSPCQNQGK
                ************************************************************

human           CKDGLGEYTCTCLEGFEGKNCELFTRKLCSLDNGDCDQFCHEEQNSVVCSCARGYTLADN
Ap152T          CKDGLGEYTCTCLEGFEGKNCELFTRKLCSLDNGDCDQFCHEEQNSVVCSCTRGYTLADN
                ************************************************:***********

human           GKACIPTGPYPCGKQTLERRKRSVAQATSSSGEAPDSITWKPYDAADLDPTENPFDLLDF
Ap152T          GKACIPTGPYPCGKQTLERRKRSVAQATSSSGEAPDSITWKPYDAADLDPTENPFDLLDF
                ************************************************************

human           NQTQPERGDNNLTRIVGGQECKDGECPWQALLINEENEGFCGGTILSEFYILTAAHCLYQ
Ap152T          NQTQPERGDNNLTRIVGGQECKDGECPWQALLINEENEGFCGGTILSEFYILTAAHCLYQ
                ************************************************************

human           AKRFKVRVGDRNTEQEEGGEAVHEVEVVIKHNRFTKETYDFDIAVLRLKTPITFRMNVAP
Ap152T          AKRFKVRVGDRNTEQEEGGEAVHEVEVVIKHNRFTKETYDFDIAVLRLKTPITFRMNVAP
                ************************************************************

human           ACLPERDWAESTLMTQKTGIVSGFGRTHEKGRQSTRLKMLEVPYVDRNSCKLSSSFIITQ
Ap152T          ACLPERDWAESTLMTQKTGIVSGFGRTHEKGRQSTRLKMLEVPYVDRNSCKLSSSFIITQ
                ************************************************************

human           NMFCAGYDTKQEDACQGDSGGPHVTRFKDTYFVTGIVSWGEGCARKGKYGIYTKVTAFLK
Ap152T          NMFCAGYDTKQEDACQGDSGGPHVTRFKDTYFVTGIVSWGEGCARKGKYGIYTKVTAFLK
                ************************************************************

human           WIDRSMKTRGLPKAKSHAPEVITSSPLK
Ap152T          WIDRSMKTRGLPKAKSHAPEVITSSPLK
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