

*cesa3<sup>ixr1-5</sup>*                      *cesa1<sup>fxr2-4</sup>*

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CESA8	<u>SYRIVIIIMRLIILALFFNYRITHPVDSAYGLWLTSV</u> ICEIWF <del>AVSWVLDQ</del> FPKWSPINRE	241
CESA5	<u>PYRMLIVLRLVILGLFFHYRILHPVNDAYALWLI</u> SVICEIWF <del>AVSWVLDQ</del> FPKWYPIERE	321
CESA6	<u>PYRMLIVLRLVILGLFFHYRILHPVKDAYALWLI</u> SVICEIWF <del>AVSWVLDQ</del> FPKWYPIERE	333
CESA2	<u>PYRMLILCRLAILGLFFHYRILHPVNDAYGLWL</u> TSVICEIWF <del>AVSWILDQ</del> FPKWYPIERE	334
CESA9	<u>PYRMLIFCRLAILGLFFHYRILHPVNDAGLWL</u> TSVICEIWF <del>AVSWILDQ</del> FPKWYPIERE	339
CESA4	<u>PYRIVIVLRLVILVFFFRFRILTPAKDAYPLWL</u> ISVICEIWF <del>FALSWILDQ</del> FPKWFPINRE	272
CESA1	<u>PYRVVILRLIILCFFLQYRTHPVKNAYPLWL</u> TVICEIWF <del>AFSWILDQ</del> FPKWYPIERE	332
CES10	<u>PYRIVIVLRLIILGVFLHYRTHPVKDAYALWL</u> TSVICEIWF <del>AFSWILDQ</del> FPKWYPIERE	319
CESA3	<u>PYRMVIMLRLVILCLFLHYHITNPVPNAFALWL</u> SVICEIWF <del>FALSWILDQ</del> FPKWFPVNRE	316
CESA7	<u>PYRMVIVARLVILAVFLRYRLNPNVHDALGL</u> WLTSVICEIWF <del>AVSWILDQ</del> FPKWYPIERE	295

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*cesa3<sup>ixr1-6</sup>*

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CESA8	<b>S</b> DDGAAMLSFESLVEADFAKRWVPFCKKYSIEPRAPEFYFSLKIDYLRDKVQPSFVKER	361
CESA5	<b>S</b> DDGAAMLTFEALSETAEFARKWVPFCKKYTIEPRAPEWYFCHKMDYLKNKVHPAFVRER	441
CESA6	<b>S</b> DDGAAMLTFEALSETAEFARKWVPFCKKYCIEPRAPEWYFCHKMDYLKNKVHPAFVRER	453
CESA2	<b>S</b> DDGAAMLTFEALSDTAEFARKWVPFCKKFSIEPRAPEWYFSQKMDYLKNKVHPAFVRER	454
CESA9	<b>S</b> DDGAAMLTFEALSYTAEFARKWVPFCKKFSIEPRAPEWYFSQKMDYLKHKVDPAFVNER	459
CESA4	<b>S</b> DDGASMLLFDTLSETSEFARRWVPFCKKYNVEPRAPEFYFSEKIDYLDKDKVQTFVKDR	392
CESA1	<b>S</b> DDGSAMLTFEALSETAEFAKKWVPFCKKFNIEPRAPEFYFAQKIDYLDKDKIQPSFVKER	452
CES10	<b>S</b> DDGSAMLTFEALSETAEFSKKWVPFCKKFNIEPRAPEFYFSQKIDYLDKDKIQPSFVKER	439
CESA3	<b>F</b> DDGAAMLSFESLAETSEFARKWVPFCKKYSIEPRAPEWYFAAKIDYLDKDKVQTSFVKDR	436
CESA7	<b>S</b> DDGASMLTFEALSETAEFARKWVPFCKKFSIEPRAPEMYFTLKVDYLQDKVHPTFVKER	415

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*cesa3<sup>ixr1-4</sup>*

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CESA8	LTGFKMHCRCGWSIYCMPLRPAFKGSAPINLSDRLH <b>QVLR</b> WALGSVEIFLSRHCPWLYGC	744
CESA5	LTGFKMHSRGWSVYCTPKIPAFKGSAPINLSDRLH <b>QVLR</b> WALGSVEIFLSRHCPWLYGY	831
CESA6	LTGFKMHSRGWSVYCTPKLAAPKGSAPINLSDRLH <b>QVLR</b> WALGSVEIFLSRHCPWLYGY	846
CESA2	LTGFKMCHRGWSVYCMKRAAFKGSAPINLSDRLH <b>QVLR</b> WALGSVEIFLSRHCPWLYGY	845
CESA9	LTGFKMCHRGWSVYCMKRAAFKGSAPINLSDRLH <b>QVLR</b> WALGSVEIFLSRHCPWLYGY	849
CESA4	LTGFRMHCRCGWSVYCMKRPAPKGSAPINLSDRLH <b>QVLR</b> WALGSVEIFFSRHCPWLYAW	809
CESA1	LTGFKMHARGWISIYCNPPRPAFKGSAPINLSDRLN <b>QVLR</b> WALGSIEILLSRHCPWLYGY	841
CES10	LTGFKMHARGWISIYCVSRPAFKGSAPINLSDRLN <b>QVLR</b> WALGSIEILLSRHCPWLYGY	828
CESA3	LTGFKMHARGWRSIYCMKLPAPKGSAPINLSDRLN <b>QVLR</b> WALGSVEILFSRHCPWLYGY	826
CESA7	LTGFKMHCRCGWSIYCMKRPAPKGSAPINLSDRLN <b>QVLR</b> WALGSVEIFFSRHSPLWLYGY	787

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*cesa3<sup>ixr1-2</sup>*

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CESA8	<u>SIILTSVLELRWSGVSIEDLWRNEQFVWIGG</u> SAHLFAVFQGLKMLAGLDTNFTVTSKT	864
CESA5	<u>SIIVTGILEMQWGKVGIDDWRNEQFVWIGG</u> SAHLFALFQGLLKVLAVGVTNFTVTSKA	950
CESA6	<u>SIIVTGILEMQWGKVGIDDWRNEQFVWIGG</u> SAHLFALFQGLLKVLAVGVTNFTVTSKA	965
CESA2	<u>SIIVTGILEMQWGKVGIDDWRNEQFVWIGG</u> ASSHLFALFQGLLKVLAVGVTNFTVTSKA	964
CESA9	<u>SIIVTGILEMQWGKIGIDDWRNEQFVWIGG</u> VSSHLFALFQGLLKVLAVGVTNFTVTSKA	968
CESA4	<u>SIIVTATILELRWSGVSIEDLWRNEQFVWIGG</u> SAHLFAVFQGLLKVLAVGVTNFTVTSKG	928
CESA1	<u>SIIVTGILELRWSGVSIEDWRNEQFVWIGG</u> TSAHLFAVFQGLLKVLAVGVTNFTVTSKA	960
CES10	<u>SIIVTATILELRWSGVSIEDWRNEQFVWIGG</u> TSAHLFAVFQGLLKVLAVGVTNFTVTSKA	947
CESA3	<u>SIIVTATILEMRWSGVGIDEWRNEQFVWIGG</u> SAHLFAVFQGLLKVLAVGVTNFTVTSKA	945
CESA7	<u>SIIVTATILELRWSGVSIIEWRNEQFVWIGG</u> ISAHLFAVVOGLLKVLAVGVTNFTVTSKA	907

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*cesa6<sup>ixr2-2</sup>/cesa3<sup>fxr1-3</sup>* *cesa1<sup>ixr2-2</sup>*

*cesa1<sup>ixr2-3</sup>*

CESA8 A--DDLEFGELYIVKWTLLIPPTSLIIINLVGVVAGFSDALNKGYEAWGPLFGKVFVFAF 922  
 CESA5 A--DDGEFSELYIFKWTSLIPPTLLIIINVIGVIVGISDAISNGYDSWGPLFGRLFFAF 1008  
 CESA6 A--DDGEFSDLYLFKWTSLIPPTLLIIINVIGVIVGVFDAISNGYDSWGPLFGRLFFAF 1022  
 CESA9 A--DDGEFSELYIFKWTSLIPPTLLIIINVIGVIVGVSDAINNGYDSWGPLFGRLFFAF 1026  
 CESA4 ASDEADDFGDLYLKWTLLIPPTLLIILNMVGVVAGVSDAINNGYGSWGPLFGKLFFAF 988  
 CESA1 -TDEDGDFAELYIFKWTALLIPPTVLLVNLIGIVAGVSYAVNSGYQSWDLLFGKLFFAF 1019  
 CES10 -SDEGDFAELYVFKWTSLIPPTTILLVNLVIGIVAGVSYAINSGYQSWGPLMGKLLFFAF 1006  
 CESA3 -SDEGDFAELYLFKWTLLIPPTTLLIIVNLVGVVAGVFYAINSGYQSWGPLFXKLFFAF 1004  
 CESA7 -TD--DDDFGELYAFKWTLLIPPTVLIINIVGVVAGISDAINNGYQSWGPLFGKLFFSF 965

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*cesa1<sup>ixr2-1</sup> (R)/cesa3<sup>ixr1-1</sup> (D)/ixr1-3 (R)*

*cesa6<sup>ixr2-1</sup>*

CESA8 WVILHLYPFLKGLMGRQNRPTIVILWSILLASVFSLVWVRINPFVSKTDTTSL---LN 979  
 CESA5 WVILHLYPFLKGLLGKQDRMPTIILVWSILLASILTLLWVRVNPVFAK-GGPILEICGLD 1067  
 CESA6 WVIHLYPFLKGLLGKQDRMPTIIVVWSILLASILTLLWVWNPNPFAK-GGPVLEICGLN 1081  
 CESA9 WVIVHLYPFLKGLLGKQDRVPTIILVWSILLASILTLLWVRVNPVSK-DGPVLEICGLD 1085  
 CESA4 WVIVHLYPFLKGLMGRQNRPTIVVLSILLASIFSLVWVRIDPFLPKQTGPLLKQCGVD 1048  
 CESA1 WVIAHLYPFLKGLLGRQNRPTIVIVWSVLLASIFSLWVRINPFVDANPNA-NNFNGKG 1078  
 CES10 WVVAHLYPFLKGLLGRQNRPTIVIVWSALLASIFSLWVRINPFVSTTGVMSNSFMGE- 1065  
 CESA3 WVIVHLYPFLKGLMGRQNRPTIVVWSVLLA**FIFLL**WVRIDPFTSRVTGPDILECGIN 1064  
 CESA7 WVIVHLYPFLKGLMGRQNRPTIVVIWSVLLASIFSLWVRIDPFLKTKGPDTSKCGIN 1025

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*cesa3<sup>fxr1-2</sup>* *cesa3<sup>fxr1-1</sup>*