

```
/*=====
=====*
```

```
| Covance Study Number   : 000000106343          |
```

```
| Program Name           : f_riskmrk_fas.sas      |
```

```
| Purpose                 : Figure 15.1.2.3.1
|
```

```
| Input Data              : .tflds.F1501020301
|
```

```
| Output Data             : F_15_01_02_03_01      |
```

```
| Macros Called           :                      |
```

```
| Originally Performed by :Jyothsna Reddy         |
```

```
| Date                    : 28APR2015             |
```

```
|                      |
```

```
|=====
=====|
```

```
| Modification History    |
```

```
|-----|
```

```
| Modified by            :                      |
```

```
| Modification Date      :
|
```

```
| Modification Description :                      |
```

```
+=====
=====*/
```

```
options notes source source2 nofullstimer validvarname=upcase missing=' ';
```

```
ods _all_ close;
```

```
ods listing;
```

```

*=====;

* START OF PROGRAM CODE                               ;

*=====;

%m_printto;


%let tflno=F_15_01_02_03_01;


/* Standard - leave this */

%let TFL_Part=%scan(&_SASPROGRAMFILE,-3,%str(/));


/* Standard - leave this */


data _null_;

    tmp("&TFL_Part";

        if tmp not in ("dev" "qc") then call symput("TFL_Part", "prod");

        call symput('TFLpath', compress("&_SASPROGRAMFILE", ""));

run;


%put &tflpath;


/* Example of basic GTL syntax */

ods _all_ close;

%let temp=/cvn/projects/prj/development/000000106343/dev/macro/;

```

```
options notes source source2 nofullstimer validvarname=upcase  
nonumber nodate orientation=portrait missing=' ';  
ods graphics on; /* As we are effectively using ODS graphics we need to ensure that it is turned on */  
ods graphics / height=12cm width=16cm noborder; /* Removes border around the image */  
ods path reset;
```

```
%include "/cvn/projects/prj/development/000000106343/dev/figures/figtmplt.sas";  
ods rtf toc_data file="/cvn/projects/prj/data/000000106343/TFL/dev/Tables/&tflno..rtf"  
style=t106343_g startpage=yes headery=1440 footery=1440 ;
```

```
ods exclude all;
```

```
data adbx;
```

```
set
```

```
    tflds.t_15_02_04_26_01_f
```

```
        tflds.t_15_02_04_27_01_f
```

```
        tflds.t_15_02_04_28_01_f
```

```
        tflds.t_15_02_04_29_01_f
```

```
        tflds.t_15_02_04_30_01_f
```

```
        tflds.t_15_02_04_31_01_f
```

```
        tflds.t_15_02_04_32_01_f
```

tflds.t_15_02_04_33_01_f

;

run;

data gmean2;

set adbx;

IF avisitn=98 THEN avisit1=0;

IF avisitn=10 THEN avisit1=0;

IF avisitn=101 THEN avisit1=1;

IF avisitn=102 THEN avisit1=2;

IF avisitn=103 THEN avisit1=3;

IF avisitn=104 THEN avisit1=4;

IF avisitn=105 THEN avisit1=5;

IF avisitn=106 THEN avisit1=5;

IF avisitn=130 THEN avisit1=6;

IF avisitn=160 THEN avisit1=7;

IF avisitn=190 THEN avisit1=8;

IF avisitn=191 THEN avisit1=8;

tpt=avisit1;

IF AVISITN=99 THEN DELETE;

/* if trtan = . then trtan = trtpn;*/

if trtpn = . then trtpn = trtan;

/**/

```

/* if trta = " then trta = trtp;*/

if trtp = " then trtp = trta;


run;

proc sort;

by paramn;

run;

/*Use a proc summary to find the maximum value of the Y axis which needs to be presented for the first
plot*/

proc summary data=gmean2;

    by paramn;

    var uclm;

    output out =axis1  max=max1;

run;

proc summary data=gmean2;

    by paramn;

    var lclm;

    output out =axis2  min=min1;

run;

data maxaxis1;

    merge axis1 axis2(drop=_type_ _freq_);

    by paramn;

    max2=(ceil(max1));

    min2=(floor(min1));

    /*Use mod 2 to ensure axis limit is an even number so the increment can be 2*/

```

```

        if mod(max2,2)=0 then max2=max2;

        else if mod(max2,2)=1 then max2=max2+1;

    if min2>0 then do;

    if mod(min2,2)=0 then min2=min2;

        else if mod(min2,2)=1 then min2=min2-1;

        end;

        else min2=0;

        inc1=ceil(max2/6);

        inc=put(inc1,best.);

    min=put(min2,best.);

        max=put(max2,best.);

        keep paramn max inc min;

run;

proc sort data=gmean2 out=par(keep=paramn param) nodupkey;

by descending logf paramn;

run;

data par1;

set par;

par=_n_;

run;

proc sort data=par1;

by paramn;

```

run;

data adbx3;

set gmean2;

length inc \$8;

by paramn;

if paramn=1001 then par=1;

if paramn=1002 then par=2;

if paramn=1015 then par=3;

if paramn=1026 then par=4;

if paramn=2012 then par=5;

if paramn=2013 then par=6;

if paramn=21 then par=7;

if paramn=2022 then par=8;

if paramn=2023 then par=9;

if paramn=2027 then par=10;

if paramn=2028 then par=11;

if paramn=104 then par=12;

if paramn=105 then par=13;

if paramn=107 then par=14;

if paramn=109 then par=15;

if paramn=111 then par=16;

if paramn=113 then par=17;

if paramn=2008 then par=18;

if paramn=2020 then par=19;

if paramn=2024 then par=20;

if paramn=25 then par=21;

if paramn=26 then par=22;

if paramn=115 then par=23;

if paramn=3073 then par=24;

if paramn=3076 then par=25;

if par=1 then do; min='0'; max='130'; inc='10'; end;

if par=2 then do; min='0'; max='80'; inc='10'; end;

if par=3 then do; min='0'; max='90'; inc='10'; end;

if par=4 then do; min='0'; max='110'; inc='10'; end;

if par=5 then do; min='0'; max='200'; inc='20'; end;

if par=6 then do; min='0'; max='240'; inc='30'; end;

if par=7 then do; min='0'; max='7'; inc='1'; end;

if par=8 then do; min='0'; max='70'; inc='10'; end;

if par=9 then do; min='0'; max='160'; inc='10'; end;

if par=10 then do; min='0'; max='180'; inc='20'; end;

if par=11 then do; min='0'; max='110'; inc='10'; end;

if par=12 then do; min='0'; max='10'; inc='1'; end;

if par=13 then do; min='0'; max='6'; inc='1'; end;

if par=14 then do; min='0'; max='4'; inc='.5'; end;

if par=15 then do; min='0'; max='1'; inc='0.1'; end;

if par=16 then do; min='0'; max='0.5'; inc='0.1'; end;

if par=17 then do; min='0'; max='0.1'; inc='0.01'; end;

if par=18 then do; min='0'; max='120'; inc='10'; end;


```
if par=19 then do; min='0'; max='4'; inc='1'; end;  
if par=20 then do; min='0'; max='20'; inc='5'; end;  
if par=21 then do; min='0'; max='400'; inc='50'; end;  
if par=22 then do; min='0'; max='350'; inc='50'; end;  
if par=23 then do; min='0'; max='400'; inc='25'; end;  
if par=24 then do; min='0'; max='500'; inc='100'; end;  
if par=25 then do; min='0'; max='800'; inc='100'; end;
```

```
run;
```

```
PROC SQL;
```

```
CREATE TABLE ADBX3_X AS
```

```
SELECT PARAM,par, trtp, AVISIT, MEAN, LCLM, UCLM
```

```
FROM ADBX3;
```

```
QUIT;
```

```
PROC EXPORT
```

```
DATA=ADBX3_X
```

```
DBMS=XLSX
```

```
OUTFILE="/cvn/projects/prj/data/000000106343/TFL/dev/Tables/&tflno..xlsx"
```

```
REPLACE;
```

```
SHEET=Sheet1;
```

```
PROC FORMAT;
```

VALUE XAXIS

4.5='1'

9='2'

13.5='3'

18='4'

22.5='5'

45='30'

67.5='60'

90='90'

0='Baseline'

;

RUN;

title;

footnote;

proc sort data=adbx3; by paramn par; run;

data paging; /* paging is derived normally as with RTF type TFL */

set adbx3 end=last;

page=1;

par1=put(par,2.);

if last=1 then call symput("maxpage", par1);

if trtpn=3 then trtord=3;

```
else if trtpn=4 then trtord=1;
```

```
else if trtpn=5 then trtord=2;
```

```
    if tpt=1 then newvis=4.5;
```

```
    else if tpt=2 then newvis=9;
```

```
    else if tpt=3 then newvis=13.5;
```

```
    else if tpt=4 then newvis=18;
```

```
    else if tpt=5 then newvis=22.5;
```

```
    else if tpt=6 then newvis=45;
```

```
    else if tpt=7 then newvis=67.5;
```

```
    else if tpt=8 then newvis=90;
```

```
    else newvis=tpt;
```

```
run;
```

```
%put &maxpage;
```

```
%macro graph();
```

```
%do i=1 %to 1; /* paging can either be done through a do loop or multiple macro calls */
```

```
    %do j=1 %to 25 %by 1;
```

```
        data plot1;
```

```
        set paging;
```

```
        where par=&j;
```

```
        run;
```

```

proc sql noprint;

select param into:param trimmed

    from plot1;

quit;

data plot;

    set plot1;

    where page = &i;

    call symput("max1",max);

        call symput("min1",min);

        call symput("inc1",inc);


run;

%let maxpage=&maxpage;

proc template;

    define statgraph splot /store = work.templat;

        begingraph /;

            layout lattice;


%if &j=25 %then %do;

    layout overlay / border=false

        xaxisopts=(linearopts=(tickvaluelist=(0 4.5 9 13.5 18 22.5 45 67.5 90)
TICKVALUEFITPOLICY=ROTATE)

            label="Study Day")

        yaxisopts=(linearopts=(tickvaluesequence=(start=0 end=800 increment=100)

            viewmin=0 viewmax=800)

            label=" ") cycleattrs=false;

```

```

%end;

%else %if &j=23 %then %do;

    layout overlay / border=false

    xaxisopts=(linearopts=(tickvaluelist=(0 4.5 9 13.5 18 22.5 45 67.5 90)
TICKVALUEFITPOLICY=ROTATE)

    label="Study Day")

    yaxisopts=(linearopts=(tickvaluesequence=(start=0 end=400 increment=25)

    viewmin=0 viewmax=&max1)

    label=" &param") cycleattrs=false;

%end;

%else %do;

    layout overlay / border=false

    xaxisopts=(linearopts=(tickvaluelist=(0 4.5 9 13.5 18 22.5 45 67.5 90)
TICKVALUEFITPOLICY=ROTATE)

    label="Study Day")

    yaxisopts=(linearopts=(tickvaluesequence=(start=0 end=&max1 increment=&inc1)

    viewmin=0 viewmax=&max1)

    label=" &param") cycleattrs=false;

%end;

seriesplot x=newvis y=mean / index=trtpn primary=true group=trtp display=(markers)

    legendlabel="mean" name="series";

scatterplot x=newvis y=mean / index=trtpn group=trtp yerrorlower=lclm yerrorupper=uclm

    legendlabel="mean" name="scatter" ;

discretelegend "series";

```

```

        endlayout;

%if &j=25 %then %do;

rowaxes;

    rowaxis / griddisplay=on display=(tickvalues);

endrowaxes;


rowheaders;

layout gridded / columns=2 ;

    entry "11-Dehydro-Thromboxane B2" / textattrs=GraphLabelText rotate=90 ;

    entry "(pg/mg creat)" / textattrs=(size=11) rotate=90 ;

endlayout;

endrowheaders;

%end;

endlayout;

endgraph;

    end;

run;


ods select all;


ODS ESCAPECHAR='^';

ODS RTF PREPAGE="^S={outputwidth=100% just=l font_size=12pt font_weight=bold background=white
foreground=black font_face=arial}^R/RTF'\QL' Figure 15.1.2.3.1 Risk Markers Mean and 95% CI - PP Set";

ods rtf style=t106343_g;

```

```
proc sort data=plot; by trtord;run;
```

```
proc sgrender data=plot template=splot; /* applies the above template to the specified data */
```

```
FORMAT newvis XAXIS.;
```

```
run;
```

```
%if &j=25 %then %do;
```

```
ODS RTF TEXT="^S={outputwidth=100% just=l font_size=9pt background=white foreground=black  
font_face=arial}^R/RTF'\QL' Geometric mean is displayed for C Reactive Protein (mg/L), Fibrinogen  
(mg/dL), Glucose (mg/dL), Homocysteine";
```

```
ODS RTF TEXT="^S={outputwidth=100% just=l font_size=9pt background=white foreground=black  
font_face=arial}^R/RTF'\QL' (umol/L), Intercellular Adhesion Molecule 1 (ng/mL), Platelets (GI/L),  
Prostaglandin F2 Alpha (pg/mg creat)";
```

```
ODS RTF TEXT="^S={outputwidth=100% just=l font_size=9pt background=white foreground=black  
font_face=arial}^R/RTF'\QL' and 11-Dehydro-Thromboxane B2 (pg/mg creat). All other risk markers are  
presented using arithmetic mean.";
```

```
%end;
```

```
ODS RTF TEXT="^S={outputwidth=100% just=l font_size=9pt background=white foreground=black  
font_face=arial}^R/RTF'\QL' Note: Baseline is summarized using the baseline data from the PP Set for  
Period 1.";
```

```
ODS RTF TEXT="^S={outputwidth=100% just=l font_size=9pt background=white foreground=black  
font_face=arial}^R/RTF'\QL' Note: mCC = Menthol conventional cigarettes; SA = Smoking abstinence;  
THSm2.2 = Tobacco Heating System 2.2 Menthol.";
```

```
ODS RTF TEXT="^S={outputwidth=100% just=l font_size=9pt background=white foreground=black  
font_face=arial}^R/RTF'\QL' Note: Baseline is the last assessment prior to first product use in mCC/THS  
2.2 arms on Day 1 or last assessment prior to 10:00 AM in SA arm on Day 1.";
```

```
ODS RTF TEXT="^S={outputwidth=100% just=l font_size=9pt background=white foreground=black  
font_face=arial}^R/RTF'\QL'";
```

```
ODS RTF TEXT="^S={outputwidth=100% just=l font_size=9pt background=white foreground=black  
font_face=arial}^R/RTF\QL' Appendix 15.2.4.26.1, 15.2.4.27.1, 15.2.4.28.1, 15.2.4.29.1, 15.2.4.30.1,  
15.2.4.31.1, 15.2.4.32.1, 15.2.4.33.1.";
```

```
%let tflprg=f_riskmrk;
```

```
ODS RTF TEXT="^S={outputwidth=100% just=l font_size=9pt background=white foreground=black  
font_face=arial}^R/RTF\QL' Study ID:ZRHM-REXA-08-US Program: &tflprg..sas &sysdate Status:  
&status. (Page &j of &maxpage)";
```

```
%end;
```

```
%end;
```

```
%mend graph;
```

```
%graph;
```

```
ods _all_ close;
```

```
ods graphics / reset;
```

```
%m_logchk;
```