

To meet ADA's quality standards for publication, it is important to submit digital art that conforms to the appropriate resolution, size, color mode, and file format. Doing so will help to avoid delays in publication and maximize the quality of images, both online and in print.

Labeling and Font Usage: Please use the same font for all figures in your manuscript, and use a standard font such as Arial, Helvetica, Times, Symbol, Mathematical Pi, or European Pi. Do not use varying letter type sizes within a single figure; use the same size or similar sizes throughout.

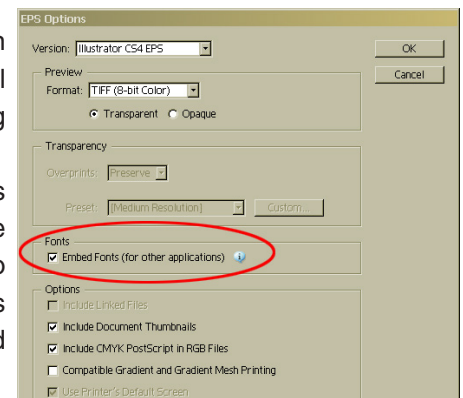
***IMPORTANT* Submit Vector Artwork whenever possible. There are two categories of Digital Artwork:**

1. **Raster Images** (i.e. pixel-based; also called bitmapped images; TIF and JPG files support raster data only.)
2. **Vector Images** (i.e. object-based; PDF, EPS, AI, and PPT files support both vector and raster data.)

Vector images are preferred because they are resolution-independent - they have the highest quality and produce the best results in publication. See below and on the next page for more information about Vector and Raster artwork.

Vector Artwork: Vector artwork is typically generated using drawing or illustration programs (e.g., Adobe Illustrator) and is composed of mathematically defined geometric shapes—lines, objects, and fills. Vector graphics are resolution independent and can be enlarged or reduced to any size without quality loss.

- **Vector line art:** Common examples are text, graphs and charts created in illustration programs. It is preferable to have these saved as EPS files, with all fonts embedded, and graph lines at least 0.25 points wide. If you are using Illustrator, check the box that reads **Embed Fonts** when saving the file.
- **Combination line/halftone:** Common examples are color or grayscale figures containing halftone and line art elements. The halftone elements should be processed in Photoshop and the line elements in Illustrator, and the two elements from the two applications should be combined in Illustrator. It is preferable to have these saved as EPS files, with all fonts embedded, and graph lines at least 0.25 points wide.



Color Mode: All color image files must be submitted in their original RGB color. This will ensure that the brightest possible RGB colors will show online, as the RGB color space (light-based) is capable of producing more saturated colors than the CMYK (ink-based) color space. For this reason, there will be a color shift when images are converted to CMYK for print.

RGB - online



CMYK - print

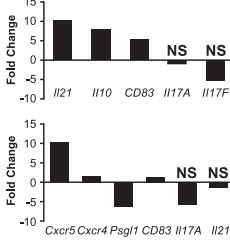
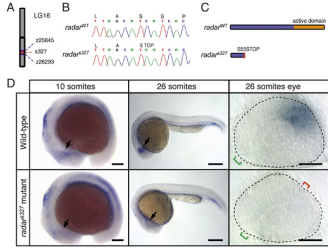
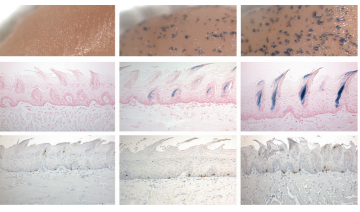


To ensure the best possible conversion to CMYK for the printed journal, when you work with raster images, it is best to use an application that supports ICC profiles, such as Adobe Photoshop. Whatever application you use, be sure to always embed the originating ICC profile when saving the file. This is usually the default behavior - for example, this screen shot is from the Save As... dialog box in Photoshop. The box to embed the ICC profile is checked by default, just be sure to leave the box checked. If you are using a different application, please check the documentation to be sure you are properly embedding the ICC profiles.



Raster Images and Resolution: Low-resolution images are one of the leading causes of art resubmission and schedule delays. Submitted raster (i.e. pixel-based) images must meet the minimum resolution requirements. Raster images can be classified as monochrome (line-art), halftone, or combination halftone. TIF, EPS, or PPT file formats are preferred. Preferably, provide text and line-art in vector format.

- **Monochrome (1-bit) images (line-art):** Common examples are graphs and charts made of solid black and white, with no gray values. The suggested minimum resolution for this type of image is 1000 ppi at publication size.
- **Combination Halftones:** Common examples are color or grayscale figures containing halftone and line art elements. The suggested minimum resolution for this type of image is 600 ppi at publication size.
- **Halftones:** Common examples are color or grayscale figures containing pictures only, with no text or line art. The suggested minimum resolution for this type of image is 300 ppi at publication size.

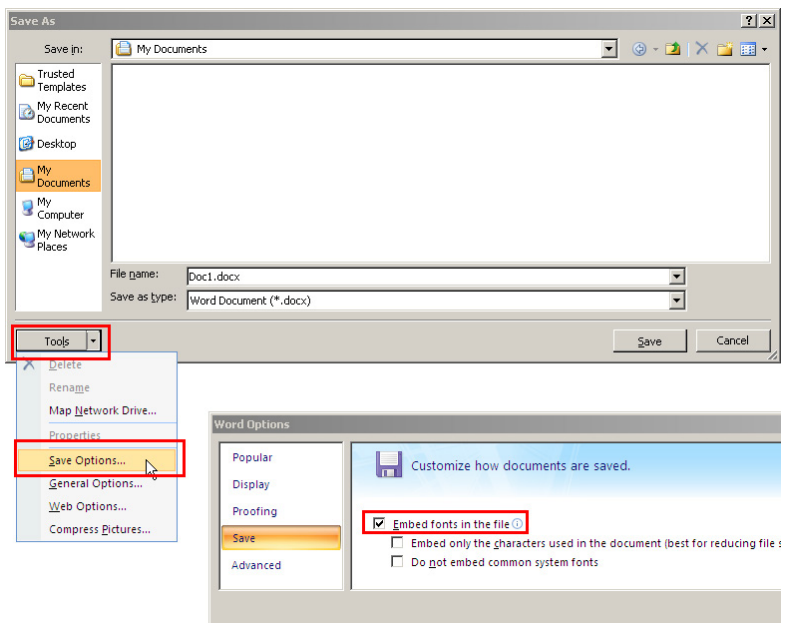
Monochrome (line-art)	Combination Halftones (grayscale or color images with type)	Halftones (grayscale or color images with no type or lettering)
		
1000 - 1200 dpi	600 - 900 dpi	300 dpi

Microsoft Office: While Illustrator or another professional-quality vector application is preferred, Word, Excel, or Power-Point can be used to create high-quality vector artwork. If you must create your figure in a Microsoft Office application, please follow these general rules to ensure that the file is properly prepared:

1. Do not use pattern or textured fills in graphics. Instead, use solid fills or percentage screens: these will be effectively maintained as vector data during file conversion. **Note:** A 20% difference in percent screens is most effective for differentiation.
2. Artwork placed within any MS Office application should be of acceptable minimum resolution for print production: 300 ppi for halftones, 600-900 ppi for combinations, and 1000-1200 ppi for line art.
3. When inserting pictures/images into files, be sure to select “insert” rather than “insert link.” The latter will not properly embed the high-resolution image into the MS Office file.
4. For each and every file created in MS Office, **before** saving the file, choose File>Options>Advanced and check the box labeled “Do not compress images in file.” (This will help ensure that high resolution is maintained.)
5. Always embed fonts in your documents. See the guidelines below for embedding fonts in MS Office documents.

Embedding Fonts in MS Office:

- From the file menu, select Save As...
- From the **Tools** menu, select **Save Options...**, then check the **Embed Fonts in the file** box as shown below. These screen shots are from MS Office 2007 for Windows. If you are using a different version, these boxes may look different, but the instructions above should suffice.



Authors who do not comply with these guidelines will be asked to resubmit their figures in a print-quality format, which may delay publication.