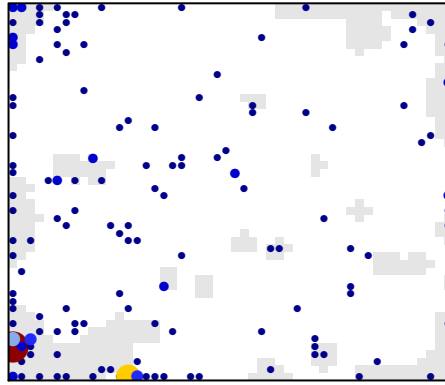
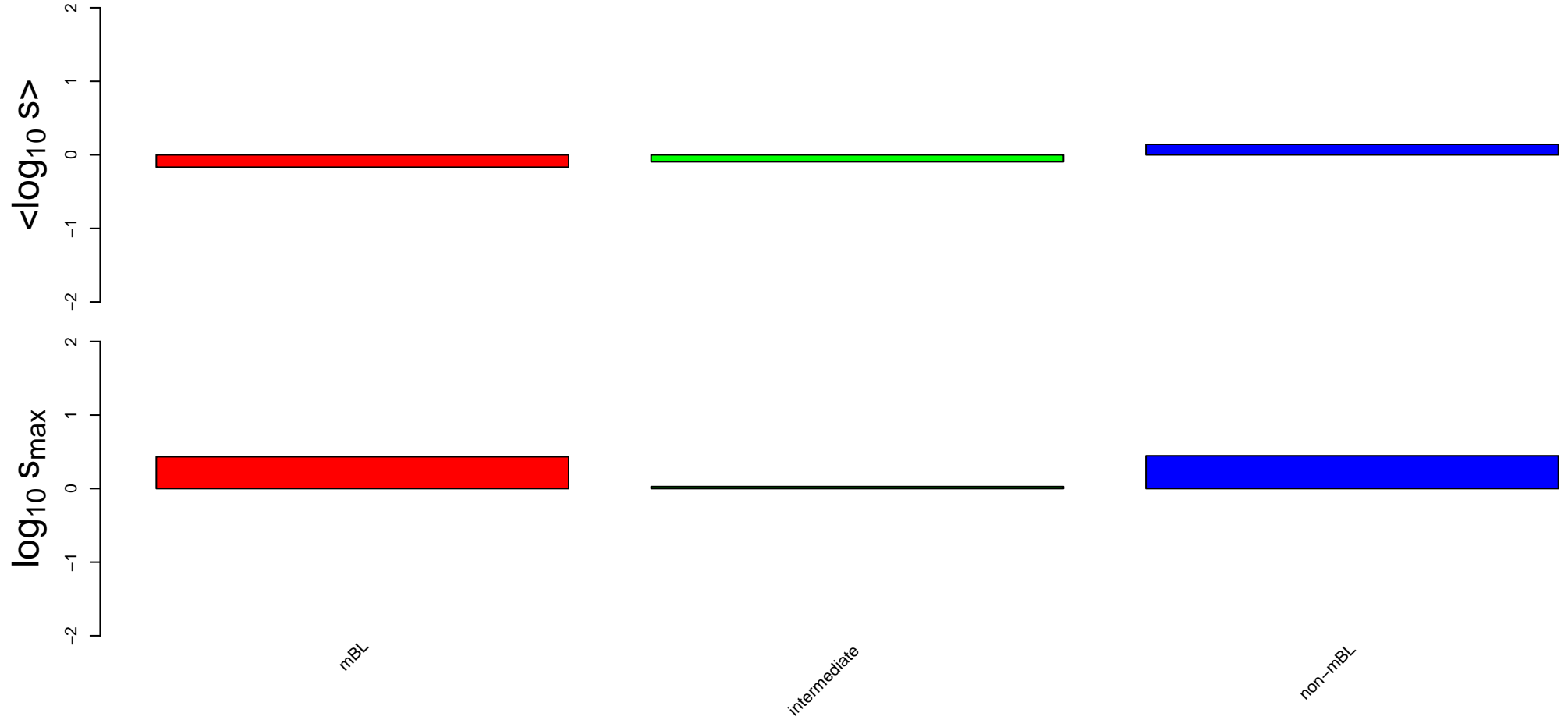
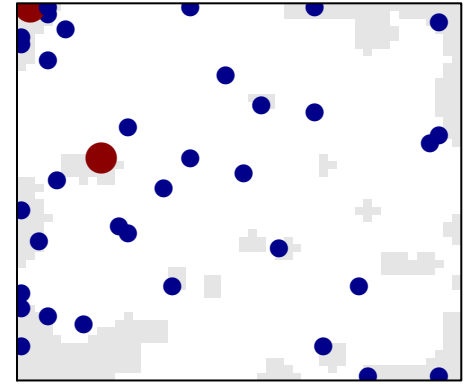


# TNF signaling pathway

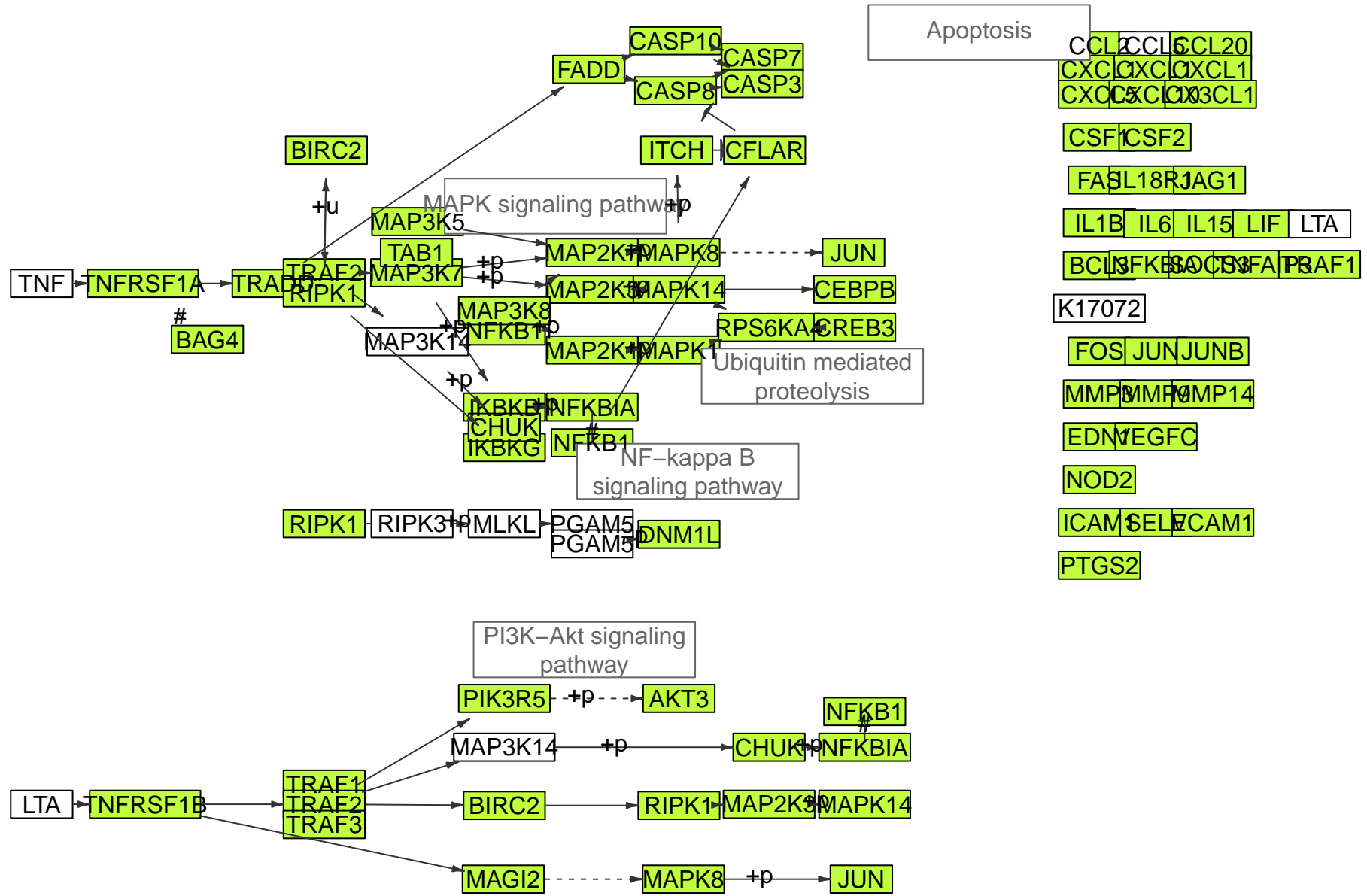
## all genes



## sink node genes

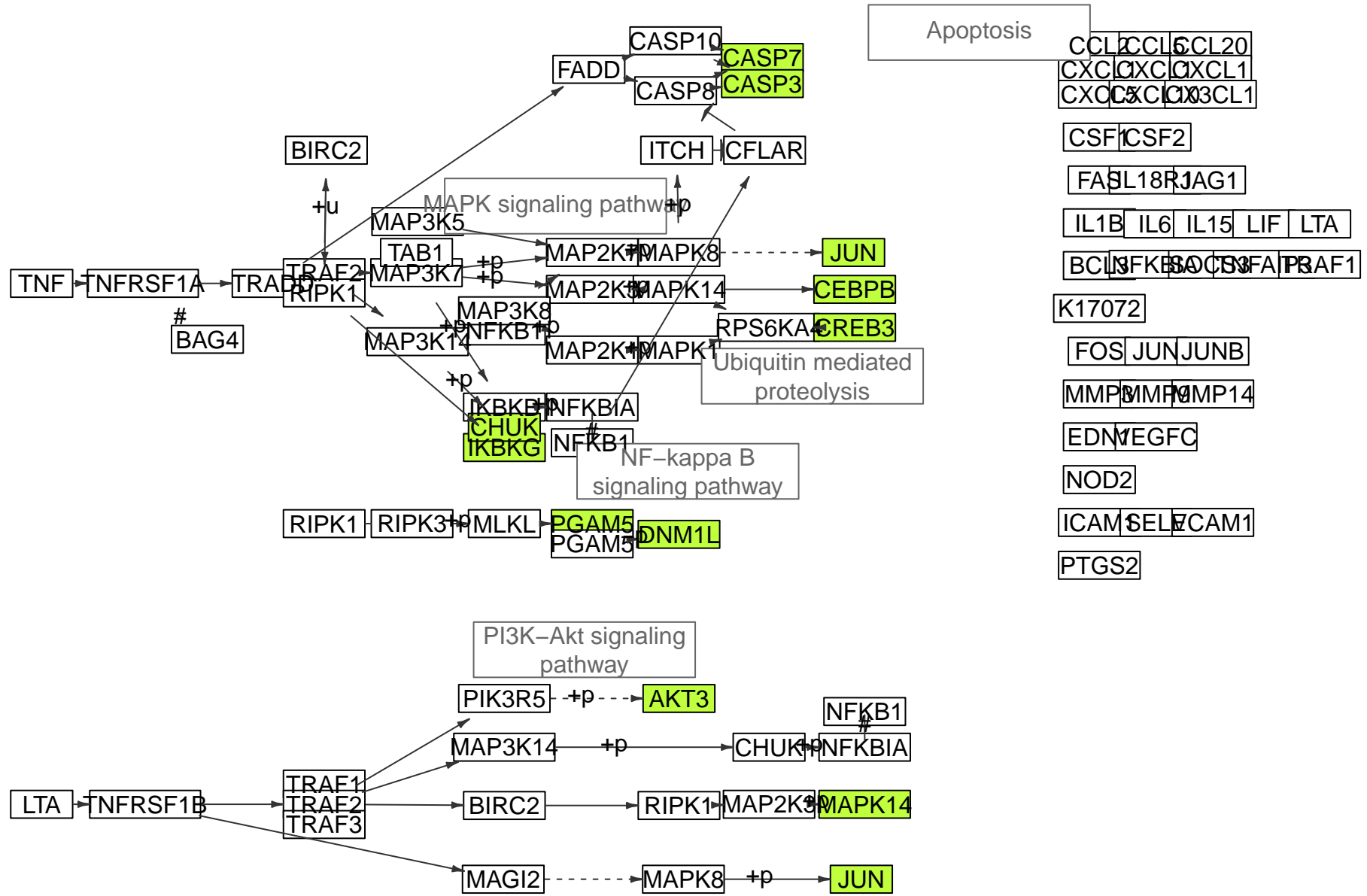


TNF signaling pathway  
(genes with data)



- Apoptosis
- CCL2, CCL5, CCL20, CXCL1, CXCL2, CXCL3, CXCL11, CXCL12, CXCL13, CXCL14, CXCL16
  - CSF1, CSF2
  - FASL, IL18, JAG1
  - IL1B, IL6, IL15, LIF, LTA
  - BCL2, BCL2L1, BCL6, BCL7A, BCL7B, BCL7C, BCL7D, BCL7E, BCL7F, BCL7G, BCL7H, BCL7I, BCL7J, BCL7K, BCL7L, BCL7M, BCL7N, BCL7O, BCL7P, BCL7Q, BCL7R, BCL7S, BCL7T, BCL7U, BCL7V, BCL7W, BCL7X, BCL7Y, BCL7Z
  - K17072
  - FOS, JUN, JUNB
  - MMP1, MMP10, MMP14
  - EDN1, EGF, EGF2, EGF3, EGF4, EGF5, EGF6, EGF7, EGF8, EGF9, EGF10, EGF11, EGF12, EGF13, EGF14, EGF15, EGF16, EGF17, EGF18, EGF19, EGF20, EGF21, EGF22, EGF23, EGF24, EGF25, EGF26, EGF27, EGF28, EGF29, EGF30, EGF31, EGF32, EGF33, EGF34, EGF35, EGF36, EGF37, EGF38, EGF39, EGF40, EGF41, EGF42, EGF43, EGF44, EGF45, EGF46, EGF47, EGF48, EGF49, EGF50, EGF51, EGF52, EGF53, EGF54, EGF55, EGF56, EGF57, EGF58, EGF59, EGF60, EGF61, EGF62, EGF63, EGF64, EGF65, EGF66, EGF67, EGF68, EGF69, EGF70, EGF71, EGF72, EGF73, EGF74, EGF75, EGF76, EGF77, EGF78, EGF79, EGF80, EGF81, EGF82, EGF83, EGF84, EGF85, EGF86, EGF87, EGF88, EGF89, EGF90, EGF91, EGF92, EGF93, EGF94, EGF95, EGF96, EGF97, EGF98, EGF99, EGF100
  - NOD2
  - ICAM1, SELP, ICAM1, ICAM2, ICAM3, ICAM4, ICAM5, ICAM6, ICAM7, ICAM8, ICAM9, ICAM10, ICAM11, ICAM12, ICAM13, ICAM14, ICAM15, ICAM16, ICAM17, ICAM18, ICAM19, ICAM20, ICAM21, ICAM22, ICAM23, ICAM24, ICAM25, ICAM26, ICAM27, ICAM28, ICAM29, ICAM30, ICAM31, ICAM32, ICAM33, ICAM34, ICAM35, ICAM36, ICAM37, ICAM38, ICAM39, ICAM40, ICAM41, ICAM42, ICAM43, ICAM44, ICAM45, ICAM46, ICAM47, ICAM48, ICAM49, ICAM50, ICAM51, ICAM52, ICAM53, ICAM54, ICAM55, ICAM56, ICAM57, ICAM58, ICAM59, ICAM60, ICAM61, ICAM62, ICAM63, ICAM64, ICAM65, ICAM66, ICAM67, ICAM68, ICAM69, ICAM70, ICAM71, ICAM72, ICAM73, ICAM74, ICAM75, ICAM76, ICAM77, ICAM78, ICAM79, ICAM80, ICAM81, ICAM82, ICAM83, ICAM84, ICAM85, ICAM86, ICAM87, ICAM88, ICAM89, ICAM90, ICAM91, ICAM92, ICAM93, ICAM94, ICAM95, ICAM96, ICAM97, ICAM98, ICAM99, ICAM100
  - PTGS2

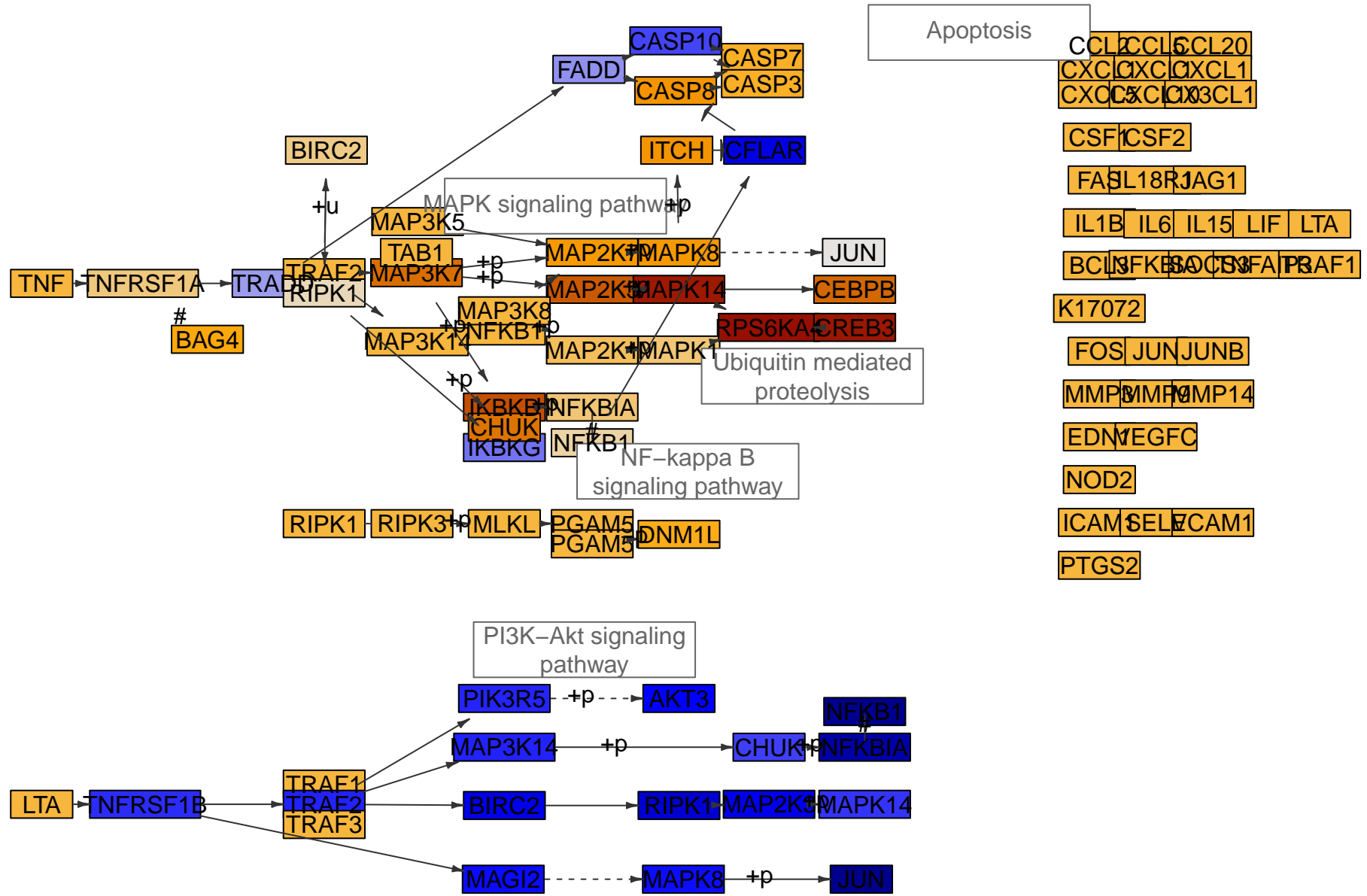
TNF signaling pathway  
(sink nodes)



Apoptosis

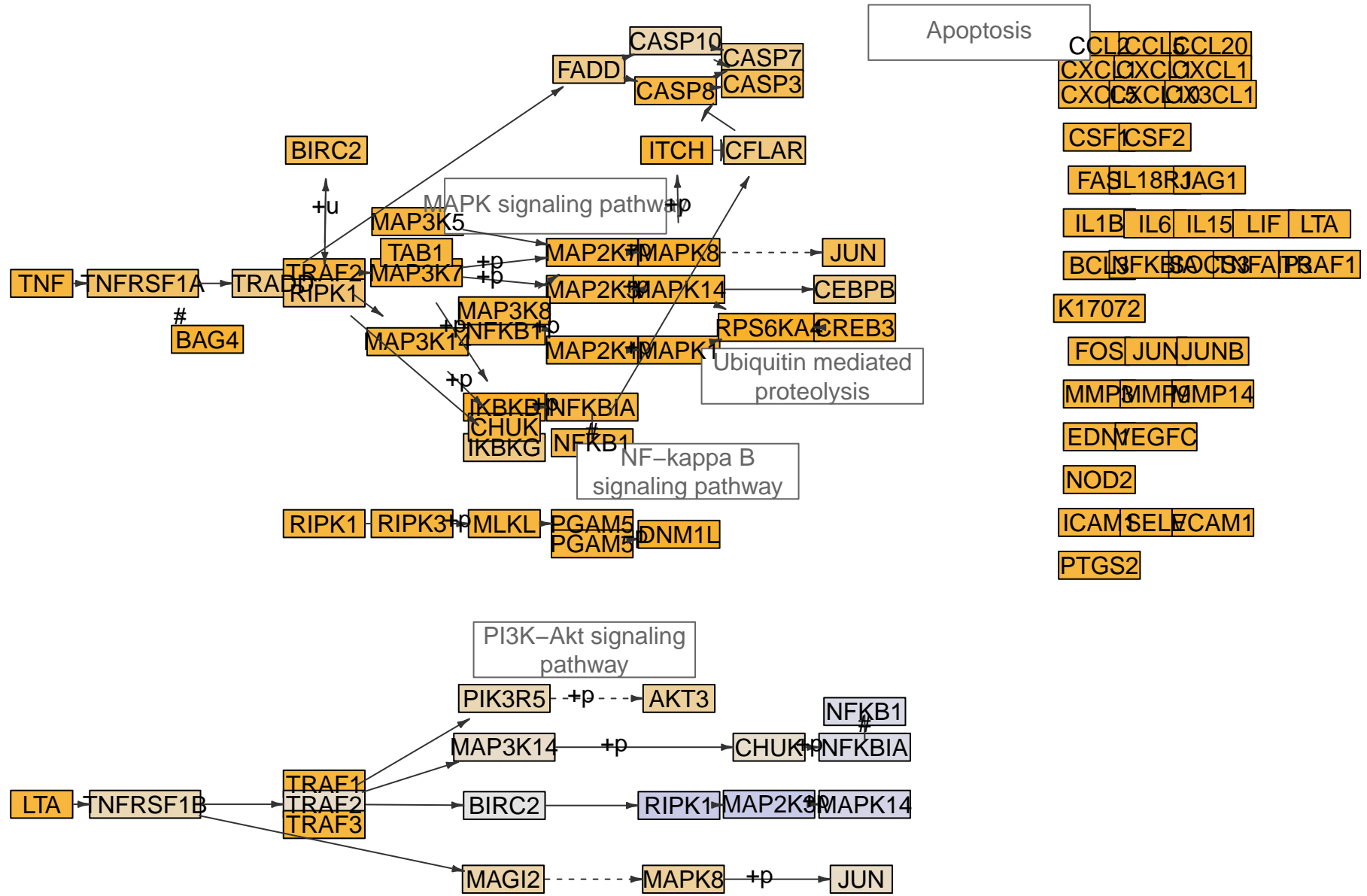
- CCL2 | CCL5 | CCL20
- CXCL1 | CXCL2 | CXCL3 | CXCL4 | CXCL5 | CXCL6 | CXCL7 | CXCL8 | CXCL9 | CXCL10 | CXCL11 | CXCL12
- CSF1 | CSF2
- FASL | IL18 | IL1B | IL6 | IL15 | LIF | LTA
- BCL2 | BCL2L1 | BCL6 | BCL11 | BCL11L | BCL2L2 | BCL2L3 | BCL2L4 | BCL2L5 | BCL2L6 | BCL2L7 | BCL2L8 | BCL2L9 | BCL2L10 | BCL2L11 | BCL2L12 | BCL2L13 | BCL2L14 | BCL2L15 | BCL2L16 | BCL2L17 | BCL2L18 | BCL2L19 | BCL2L20 | BCL2L21 | BCL2L22 | BCL2L23 | BCL2L24 | BCL2L25 | BCL2L26 | BCL2L27 | BCL2L28 | BCL2L29 | BCL2L30 | BCL2L31 | BCL2L32 | BCL2L33 | BCL2L34 | BCL2L35 | BCL2L36 | BCL2L37 | BCL2L38 | BCL2L39 | BCL2L40 | BCL2L41 | BCL2L42 | BCL2L43 | BCL2L44 | BCL2L45 | BCL2L46 | BCL2L47 | BCL2L48 | BCL2L49 | BCL2L50 | BCL2L51 | BCL2L52 | BCL2L53 | BCL2L54 | BCL2L55 | BCL2L56 | BCL2L57 | BCL2L58 | BCL2L59 | BCL2L60 | BCL2L61 | BCL2L62 | BCL2L63 | BCL2L64 | BCL2L65 | BCL2L66 | BCL2L67 | BCL2L68 | BCL2L69 | BCL2L70 | BCL2L71 | BCL2L72 | BCL2L73 | BCL2L74 | BCL2L75 | BCL2L76 | BCL2L77 | BCL2L78 | BCL2L79 | BCL2L80 | BCL2L81 | BCL2L82 | BCL2L83 | BCL2L84 | BCL2L85 | BCL2L86 | BCL2L87 | BCL2L88 | BCL2L89 | BCL2L90 | BCL2L91 | BCL2L92 | BCL2L93 | BCL2L94 | BCL2L95 | BCL2L96 | BCL2L97 | BCL2L98 | BCL2L99 | BCL2L100
- CSF1R | CSF2R
- FAS | FASL | FASL1 | FASL2 | FASL3 | FASL4 | FASL5 | FASL6 | FASL7 | FASL8 | FASL9 | FASL10 | FASL11 | FASL12 | FASL13 | FASL14 | FASL15 | FASL16 | FASL17 | FASL18 | FASL19 | FASL20 | FASL21 | FASL22 | FASL23 | FASL24 | FASL25 | FASL26 | FASL27 | FASL28 | FASL29 | FASL30 | FASL31 | FASL32 | FASL33 | FASL34 | FASL35 | FASL36 | FASL37 | FASL38 | FASL39 | FASL40 | FASL41 | FASL42 | FASL43 | FASL44 | FASL45 | FASL46 | FASL47 | FASL48 | FASL49 | FASL50 | FASL51 | FASL52 | FASL53 | FASL54 | FASL55 | FASL56 | FASL57 | FASL58 | FASL59 | FASL60 | FASL61 | FASL62 | FASL63 | FASL64 | FASL65 | FASL66 | FASL67 | FASL68 | FASL69 | FASL70 | FASL71 | FASL72 | FASL73 | FASL74 | FASL75 | FASL76 | FASL77 | FASL78 | FASL79 | FASL80 | FASL81 | FASL82 | FASL83 | FASL84 | FASL85 | FASL86 | FASL87 | FASL88 | FASL89 | FASL90 | FASL91 | FASL92 | FASL93 | FASL94 | FASL95 | FASL96 | FASL97 | FASL98 | FASL99 | FASL100
- IL1B | IL6 | IL15 | LIF | LTA
- BCL2 | BCL2L1 | BCL6 | BCL11 | BCL11L | BCL2L2 | BCL2L3 | BCL2L4 | BCL2L5 | BCL2L6 | BCL2L7 | BCL2L8 | BCL2L9 | BCL2L10 | BCL2L11 | BCL2L12 | BCL2L13 | BCL2L14 | BCL2L15 | BCL2L16 | BCL2L17 | BCL2L18 | BCL2L19 | BCL2L20 | BCL2L21 | BCL2L22 | BCL2L23 | BCL2L24 | BCL2L25 | BCL2L26 | BCL2L27 | BCL2L28 | BCL2L29 | BCL2L30 | BCL2L31 | BCL2L32 | BCL2L33 | BCL2L34 | BCL2L35 | BCL2L36 | BCL2L37 | BCL2L38 | BCL2L39 | BCL2L40 | BCL2L41 | BCL2L42 | BCL2L43 | BCL2L44 | BCL2L45 | BCL2L46 | BCL2L47 | BCL2L48 | BCL2L49 | BCL2L50 | BCL2L51 | BCL2L52 | BCL2L53 | BCL2L54 | BCL2L55 | BCL2L56 | BCL2L57 | BCL2L58 | BCL2L59 | BCL2L60 | BCL2L61 | BCL2L62 | BCL2L63 | BCL2L64 | BCL2L65 | BCL2L66 | BCL2L67 | BCL2L68 | BCL2L69 | BCL2L70 | BCL2L71 | BCL2L72 | BCL2L73 | BCL2L74 | BCL2L75 | BCL2L76 | BCL2L77 | BCL2L78 | BCL2L79 | BCL2L80 | BCL2L81 | BCL2L82 | BCL2L83 | BCL2L84 | BCL2L85 | BCL2L86 | BCL2L87 | BCL2L88 | BCL2L89 | BCL2L90 | BCL2L91 | BCL2L92 | BCL2L93 | BCL2L94 | BCL2L95 | BCL2L96 | BCL2L97 | BCL2L98 | BCL2L99 | BCL2L100
- K17072
- FOS | JUN | JUNB
- MMP1 | MMP10 | MMP14
- EDN1 | EGF | EGF2 | EGF3 | EGF4 | EGF5 | EGF6 | EGF7 | EGF8 | EGF9 | EGF10 | EGF11 | EGF12 | EGF13 | EGF14 | EGF15 | EGF16 | EGF17 | EGF18 | EGF19 | EGF20 | EGF21 | EGF22 | EGF23 | EGF24 | EGF25 | EGF26 | EGF27 | EGF28 | EGF29 | EGF30 | EGF31 | EGF32 | EGF33 | EGF34 | EGF35 | EGF36 | EGF37 | EGF38 | EGF39 | EGF40 | EGF41 | EGF42 | EGF43 | EGF44 | EGF45 | EGF46 | EGF47 | EGF48 | EGF49 | EGF50 | EGF51 | EGF52 | EGF53 | EGF54 | EGF55 | EGF56 | EGF57 | EGF58 | EGF59 | EGF60 | EGF61 | EGF62 | EGF63 | EGF64 | EGF65 | EGF66 | EGF67 | EGF68 | EGF69 | EGF70 | EGF71 | EGF72 | EGF73 | EGF74 | EGF75 | EGF76 | EGF77 | EGF78 | EGF79 | EGF80 | EGF81 | EGF82 | EGF83 | EGF84 | EGF85 | EGF86 | EGF87 | EGF88 | EGF89 | EGF90 | EGF91 | EGF92 | EGF93 | EGF94 | EGF95 | EGF96 | EGF97 | EGF98 | EGF99 | EGF100
- NOD2
- ICAM1 | SELP | CAM1
- PTGS2

TNF signaling pathway  
mBL



- Apoptosis
- CCL2 CCL5 CCL20
  - CXCL1 CXCL2 CXCL3 CXCL4 CXCL5 CXCL6 CXCL7 CXCL8 CXCL9 CXCL10 CXCL11 CXCL12 CXCL13 CXCL14 CXCL15 CXCL16 CXCL17 CXCL18 CXCL19 CXCL20 CXCL21 CXCL22 CXCL23 CXCL24 CXCL25 CXCL26 CXCL27 CXCL28 CXCL29 CXCL30 CXCL31 CXCL32 CXCL33 CXCL34 CXCL35 CXCL36 CXCL37 CXCL38 CXCL39 CXCL40 CXCL41 CXCL42 CXCL43 CXCL44 CXCL45 CXCL46 CXCL47 CXCL48 CXCL49 CXCL50 CXCL51 CXCL52 CXCL53 CXCL54 CXCL55 CXCL56 CXCL57 CXCL58 CXCL59 CXCL60 CXCL61 CXCL62 CXCL63 CXCL64 CXCL65 CXCL66 CXCL67 CXCL68 CXCL69 CXCL70 CXCL71 CXCL72 CXCL73 CXCL74 CXCL75 CXCL76 CXCL77 CXCL78 CXCL79 CXCL80 CXCL81 CXCL82 CXCL83 CXCL84 CXCL85 CXCL86 CXCL87 CXCL88 CXCL89 CXCL90 CXCL91 CXCL92 CXCL93 CXCL94 CXCL95 CXCL96 CXCL97 CXCL98 CXCL99 CXCL100
  - CSF1 CSF2
  - FASL IL18 JAG1
  - IL1B IL6 IL15 LIF LTA
  - BCL2 BCL6 BCL11 BCL2L1 BCL2L2 BCL2L3 BCL2L4 BCL2L5 BCL2L6 BCL2L7 BCL2L8 BCL2L9 BCL2L10 BCL2L11 BCL2L12 BCL2L13 BCL2L14 BCL2L15 BCL2L16 BCL2L17 BCL2L18 BCL2L19 BCL2L20 BCL2L21 BCL2L22 BCL2L23 BCL2L24 BCL2L25 BCL2L26 BCL2L27 BCL2L28 BCL2L29 BCL2L30 BCL2L31 BCL2L32 BCL2L33 BCL2L34 BCL2L35 BCL2L36 BCL2L37 BCL2L38 BCL2L39 BCL2L40 BCL2L41 BCL2L42 BCL2L43 BCL2L44 BCL2L45 BCL2L46 BCL2L47 BCL2L48 BCL2L49 BCL2L50 BCL2L51 BCL2L52 BCL2L53 BCL2L54 BCL2L55 BCL2L56 BCL2L57 BCL2L58 BCL2L59 BCL2L60 BCL2L61 BCL2L62 BCL2L63 BCL2L64 BCL2L65 BCL2L66 BCL2L67 BCL2L68 BCL2L69 BCL2L70 BCL2L71 BCL2L72 BCL2L73 BCL2L74 BCL2L75 BCL2L76 BCL2L77 BCL2L78 BCL2L79 BCL2L80 BCL2L81 BCL2L82 BCL2L83 BCL2L84 BCL2L85 BCL2L86 BCL2L87 BCL2L88 BCL2L89 BCL2L90 BCL2L91 BCL2L92 BCL2L93 BCL2L94 BCL2L95 BCL2L96 BCL2L97 BCL2L98 BCL2L99 BCL2L100
  - K17072
  - FOS JUN JUNB
  - MMP1 MMP10 MMP14
  - EDN1 VEGFC
  - NOD2
  - ICAM1 SELP CAM1
  - PTGS2

TNF signaling pathway intermediate



TNF signaling pathway  
non-mBL

